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Educational News and Editorial Comment

A NATIONAL COMMITTEE ON RESEARCH IN SECONDARY EDUCATION

Commissioner John J. Tigert has organized a committee to co-operate with the Bureau of Education in the investigation of secondary-school problems. The statement issued by Commissioner Tigert is as follows:

1. The reorganization movement in secondary education is definitely under way in every state of the Union. It has reached small high schools in rural communities. In such small high schools reorganization commonly results in enormously increased per pupil costs, and in many cases no tangible educational outcomes commensurate with the increased costs are secured. The heart of the reorganization problem is the curriculum. The results following reorganization are disappointing because no factual basis for general curriculum reorganization has yet been established.

2. The factual basis for curriculum reorganization lies in the characteristics of the pupil population. We must know for specified pupil groups their educational status at entrance to high school, their ability to learn, their probable persistence in high school, their purposes in life, and their response to types of subject matter to which they are now subjected in typical high schools.

3. To establish these basic facts for purposes of curriculum reorganization, a study, on a national scale, of educational, psychological, and sociological

characteristics of pupils at entrance to high school by type of elementary school from which they came, by occupation of their parents, by grade level at entrance, and by type of community is desirable.

4. Such a study will involve fundamentally (a) an educational testing program, (b) a psychological testing program, (c) the collection of rather complete sociological data for entrants, and (d) an analysis of learning abilities involved in the subject matter of courses now required by entering pupils at the several entrance levels (Grades VII, VIII, and IX) in relation to pupil responses to this subject matter.

The membership of the committee is as follows: J. J. Tigert, United States Bureau of Education; J. B. Edmonson, North Central Association of Colleges and Secondary Schools; W. A. Wetzel, National Association of Secondary School Principals; A. J. Jones, National Society of College Teachers of Education; E. N. Ferriss, Cornell University; W. B. Bliss, State Department of Education of Ohio; J. M. Glass, State Department of Public Instruction of Pennsylvania; J. K. Norton, Director of Research, National Education Association; E. E. Windes, United States Bureau of Education; W. R. Smithey, Association of Colleges and Secondary Schools of the Southern States; G. S. Counts, Yale University; Thomas Briggs, Teachers College, Columbia University; J. B. Davis, Boston University; L. V. Koos, University of Minnesota; W. C. Reavis, University of Chicago; Joseph Roemer, University of Florida; H. M. Rebok, California Society for the Study of Secondary Education; E. J. Ashbaugh, Educational Research Association; R. N. Dempster, National Association of Collegiate Registrars; and J. C. Hanna, National Association of High School Inspectors and Supervisors. The following associations have not yet appointed representatives: the National Society for the Study of Education, the Association of Colleges and Secondary Schools of the Middle States and Maryland, and the New England Headmasters' Association.

A STUDY OF CLASS SIZE

The question of class size and the teaching load in the high school has become so pressing that the National Association of Secondary School Principals has appointed a commission to study the problem. The members of the commission are as follows: C. P. Briggs, principal of the High School, Lakewood, Ohio; H. V. Church,

principal of the J. Sterling Morton High School, Cicero, Illinois; Earl Hudelson, of the University of Minnesota; F. S. Breed, of the University of Chicago; C. A. Fisher, principal of the High School, Kalamazoo, Michigan; M. H. Stuart, principal of the Technical High School, Indianapolis, Indiana; and P. R. Stevenson, of the Ohio State University.

The first step in the investigation is to collect some empirical data concerning different possibilities of making efficient use of large classes. One plan is to give the teachers a large teaching load (from forty to fifty-five pupils per class and from five to six classes). An assistant should be hired to devise tests, to grade papers, and to report pupil progress to teachers for remedial instruction. Another plan is to arrange for several sections in a given subject to meet together for one or more hours a week. For example, civics or American history pupils might be divided into two or more sections, and at specified times these could be brought together in a large study hall or auditorium. One teacher should then demonstrate or present facts to the entire group. Such group meetings should be arranged whenever advisable and not necessarily at definite intervals.

Recent investigations have shown little or no advantage in small high-school classes. It is quite possible that teachers do not have a suitable technique for teaching either large or small classes. The commission will therefore investigate different means of handling the two types of classes and endeavor to set up techniques which have proved themselves to be of advantage in large or in small classes.

After the preliminary steps of the investigation, several controlled experiments will be conducted. Some of the problems which will be investigated in a scientific way under controlled conditions are as follows: (1) the effect of giving teachers large teaching loads and hiring clerical assistants, (2) the advisability of instructing large groups for part of the time, (3) the relative efficiency of large and small classes for bright, average, and dull pupils when pupils are classified according to ability, (4) the relative efficiency of large and small classes which are composed of pupils not classified according to ability.

FEDERATED COUNCIL ON ART EDUCATION

The Federated Council on Art Education was organized during the past summer to undertake the investigation of problems of art teaching and to guide American institutions in the training of art teachers. It is made up of representatives of the various organizations in the United States which are concerned with the promotion of the fine arts. Its purposes are defined as follows:

The council purposes to make careful studies of the various phases of art education. From time to time, it expects to make public in printed reports its findings, conclusions, and recommendations. It will proceed deliberately, constantly seeking the aid and advice of scholars and experienced people within and also without its own specialized field. Educational leaders, generally, will be consulted, and the best thought from every angle will support all the printed results.

Among the questions which have been raised most often in association conventions are the following: requirements in the training of the art teacher; credit in art for college entrance; art credit in college courses; art credit in high-school courses; time requirements for the training of art supervisors; degrees for art teachers and supervisors; the proper sequence in art training through the grades, the high school, the art school, and the college; objectives in each type of school and in each grade; terminology; art training for the community; art education outside the school; art schools, their methods, content, standards, outside contacts, etc.; art education in museums; textbooks in art; salaries for art teachers and supervisors; minimum essentials in art education for the grades, the junior high school, and the senior high school; courses of study; methods in art teaching.

It is the purpose of the council to devote its energies to the study of these questions and such others as may arise among the associations in the future.

The members of the council freely give their services for the good of the cause and ask for the generous and active support of all in the professional field of art education that complete and comprehensive results may be obtained.

In the public-school curriculum the fine arts have long occupied the position of a tolerated alien. In general, society gives its respect and support to the fine arts but refuses to consider them in any such serious way as it treats the fundamental social institutions of reading and number. Often when art is advocated as a part of the curriculum, indirect justifications for its adoption are urged, such as its importance as an adjunct to industry. It is pointed out that the United States is behind Europe in the production of artistic costumes, artistic dishes and furniture, and the like. It is stated that

we cannot take our place in respectable society so long as we neglect art. This kind of statement is sometimes supplemented by a half-hearted plea for the recognition of the general cultural value of the fine arts in transforming individuals who would be uncouth and unemotional without art training.

Such contentions do not carry conviction. The art courses remain on the border of the curriculum and are taken with little enthusiasm by most of the pupils. Furthermore, it must be said that many of the actual courses given in art in American schools are sad examples of lack of organization and of lack of clear purpose. Individual teachers often have had very meager preparation in their own fields and have no knowledge of the relation of art to the other forms of endeavor which are being carried on in the school.

The Federated Council on Art Education has taken a much-needed step in organizing investigations which are designed to find the place and the proper content of art courses. The officers of the council are as follows: president, Royal B. Farnum, Boston, Massachusetts; vice-president, Mary C. Scovel, Chicago, Illinois; secretary, Leon L. Winslow, Baltimore, Maryland; treasurer, James C. Boudreau, Pittsburgh, Pennsylvania.

THE ALL-YEAR SCHOOL

In an editorial entitled, "Efficiency or Deficiency in Schooling," the *American Child*, the monthly bulletin of the National Child Labor Committee, combats two opposite tendencies which are regarded as evil. The Camden County Pomona Grange of New Jersey wants children released from school in order that they may help harvest berries. To this, the National Child Labor Committee and probably most enlightened citizens object.

After disposing of the Camden County Pomona Grange, the editorial continues as follows:

But what, oh what, will these Jersey farmers who blithely suggest that the school term be shortened say to the "efficiency" plan of the business-like superintendent of the Chicago public schools, who proposes that the schools run all the year round, with the exception of a week's vacation at Christmas and one week in the summer?

A Federated Press dispatch from Chicago, in objecting to this proposal, points out that "a child now graduating at fourteen from the elementary school

and going to work in Illinois will, under the suggested plan, be able to get the same amount of schooling by the time he is twelve years old. Then the manufacturers' lobby will argue that the child-labor age should be lowered from fourteen to twelve, since the only reason for keeping it up was to give a child at least an elementary education. Under the old scheme that was fourteen; the new scheme would give it by twelve."

The dispatch quotes the Chicago school superintendent as advocating "continuous use of the school plant" and as saying that "no industrial concern would voluntarily keep its plant idle for two months each year."

If we, personally, were a Chicago child faced with the prospect of attending school the whole year round—no matter if it would give us a Ph.D. at the age of sixteen—we would immediately call a strike. We urge education as the greatest blessing of childhood, it is true; but we also urge recreation and the development of an appreciation and utilization of leisure as a prime necessity for a healthy childhood.

It is true that children in the congested districts of large cities find it difficult to obtain such recreation in a satisfactory way. Therefore, we would suggest that if Chicago's superintendent of schools is so concerned with that terrifying problem of "continuous use of the school plant," he should devote his ingenuity to devising ways in which school buildings in crowded districts might be used for play purposes in the summer.

The last two paragraphs of this editorial reveal a tendency on the part of the National Child Labor Committee to make hasty and irrational comments on educational matters. This tendency should be overcome if the committee hopes to accomplish the good ends which it was organized to promote. The assumption that there is a sharp contrast between the work of a modern school and the opportunity for "recreation and the development of an appreciation and utilization of leisure" would seem to indicate that the writer of this editorial has not kept pace with the changes that have been made in the last half-century. One cannot properly enjoy leisure without training, and appreciation of leisure does not result when children are put out into the street and allowed to do whatever they choose with their time.

The item quoted with apparent approval, in which there is a threat that the school age will probably be reduced to twelve years, is like the rest of the attack on the plan—absurd and unfounded.

The National Child Labor Committee is to be encouraged in the defense of childhood. When it undertakes to evaluate new plans for the organization of schools, it ought to seek the advice of some

competent educator. Especially is this desirable when it makes pronouncements on the all-year school.

PUBLICATIONS FOR HIGH-SCHOOL PUPILS

A new sixteen-page weekly designed to meet the interests of high-school pupils is published under the title, the *World Review*, by the World Review, Inc., 166 East Erie Street, Chicago. Each issue begins with several pages of summary of the world's news for the week. The remaining space is devoted to articles, questions, and other types of material. The first issue contains "A Story of Adventure in Medieval Venice," by Rafael Sabatini, and an article on "The Ideals That Have Made America," by Jesse Lee Bennett. The second issue includes an article on keeping physically fit by Douglas Fairbanks and a description of the early history of Mexico by Frederick Arnold Kummer. Later issues maintain the high quality of authorship. One page in each issue is devoted to a series of questions and projects on the articles contained in that issue. The material published is intended for classroom use and for general reading by high-school pupils. The tone of the publication is high, and the articles emphasize especially that social training which has of late come to be regarded as highly desirable in the lives of high-school pupils.

The supplementing of textbook material by live material of this type is a most promising sign of the times. The use of general books and of periodicals in progressive schools is becoming common and stimulates in pupils a breadth of reading and of thinking that was seldom attained in the days of mere recitation from textbooks.

Another new publication for high-school pupils, which appeals to a more specialized interest, is a monthly magazine entitled, *Music and Youth*, published by Evans Brothers, 33 Newbury Street, Boston, Massachusetts. This contains musical selections, articles on the lives and works of composers, descriptions and historical accounts of musical instruments, scientific articles, and a series of articles on "How to Enjoy Music." The publishers confidently expect a wide circulation for their magazine, which is published in England as well as in this country and is "the first musical magazine in America for young people."

A REQUEST FOR CHILDREN'S POEMS

If any of the readers of the *School Review* have in their possession poems of intrinsic merit written by pupils of any age below that of college entrance, it is requested that they send them, with the name and the age of the author, to Mabel Mountsier, 417 West 118 Street, New York City. These poems are for consideration for a comprehensive anthology of student verse, both British and American.

LAW AND REQUIRED COURSES

In an article published in the *New York Times* under the title, "Lawmakers Encroach upon the School Men," J. K. Flanders presents some facts with regard to recent legislation on the courses of study to be administered in schools. He begins by referring to the Tennessee law prohibiting the teaching of evolution and continues in part as follows:

It is possible to regard the present law in Tennessee not as something new but as a return to a condition which formerly prevailed there. Before 1917 certain designated subjects were required to be taught; a few additional ones were permitted to be taught; and then we find this unique restriction—"No other branches shall be introduced." Evolution is not found among the subjects mentioned. The only sciences included are physiology and "elementary geology of Tennessee."

Two states in 1923 had legal provisions directly affecting evolution. Oklahoma prohibited the adoption of a textbook dealing with it, but the law, apparently, would not prevent the imparting of information directly by a teacher. Florida recorded a resolution in opposition to the teaching of evolution "as true." The law in Tennessee is therefore more stringent than the law in any other state with regard to the teaching of evolution. But evolution is only one subject.

In Oregon no textbook "shall be used" which "speaks slightly of the founders of the Republic or of the men who preserved the Union or which belittles or undervalues their work." In Mississippi "no history in relation to the late Civil War between the states shall be used in the schools of this state unless it be fair and impartial." In Texas a textbook on the history of the United States must be adopted in which "the construction placed upon the federal Constitution by the fathers of the Confederacy shall be fairly represented." No textbook may be used in Wisconsin which "falsifies the facts regarding the War of Independence or the War of 1812, or which defames our nation's founders or misrepresents the ideals and causes for which they struggled and sacrificed, or which contains propaganda favorable to any foreign government."

These laws appear innocent enough, but each one must be interpreted.

Before passing judgment upon them, we need to learn exactly what their effect has been; the merit of a law and its desirability must ultimately be determined by the way it works out in the long run. The best of intentions are not infrequently nullified by actual results.

The writer has no first-hand knowledge regarding the practical working of any of these laws, but he wishes to submit the following questions for consideration. Is it probable that a book that satisfies Oregon as giving sufficient credit to the "men who preserved the Union" will at the same time be regarded by Mississippi as "fair and impartial"? Will a single book meet the requirements of Texas and Wisconsin? Do such laws tend to promote national solidarity or sectional hatred?

If a scientist is to be permitted to determine what is science, does it follow that a historian should determine what is history? Does truth change when we cross a state boundary line? Is it any more important that a teacher should be permitted to teach truth as regards science than as regards history?

In Wisconsin any five citizens may file a complaint against a textbook, and within thirty days thereafter the state school superintendent must arrange for a hearing, to be held "at the county seat of the county where the complainants reside." Such a procedure would probably judge correctly the merits of a history about as frequently as it would so judge a science book. Local prejudice and ignorance would seem by this process to be fully assured of an opportunity to exert their maximum influences.

In Nebraska the law requires an annual exhibition of school work, and each county superintendent must "offer and award premiums intended to stimulate interest in school affairs." The offering of prizes is commonly condemned by educational leaders on the ground that generally interest is stimulated only in the prize, while the school activity becomes of secondary importance. This Nebraska law directs school men to follow a procedure which may not at all achieve what the legislators evidently desired and intended.

In Ohio "the subject of thrift shall be taught at least thirty minutes in each week in each grade of the elementary and high schools of the state." Does anyone know whether so much time as that can profitably be used? Thrift is a desirable characteristic, but it has not yet been demonstrated that it can best be promoted by setting aside for the purpose thirty minutes each week over a period of twelve years. Familiarity does not always breed admiration.

A law in South Dakota requires the teaching of patriotism one hour each week in every educational institution in the state, whether public or private, and makes failure to comply a misdemeanor punishable by fine or imprisonment. On the basis of five days a week and five hours a day, this law demands one twenty-fifth of the total school time of each child.

The foregoing laws are more or less extreme and exceptional, but they are by no means the only ones that could be cited to show that the legislators of Tennessee do not stand alone in their attempt to dictate the subject matter of the public schools. Every one of the forty-eight states is aware of its authority

to legislate regarding the content of the curriculum and, to a greater or less extent, has exercised this authority. Some states have enacted a long list of prescriptions; others, very few. Some have delegated large discretionary authority to the state board of education; others have left the control of the schools and of the curriculum almost entirely to local boards. In some states the voters of a district may prescribe additional subjects; some states have been reluctant to delegate any authority.

In the last twenty years the total number of prescribed subjects has increased by more than 60 per cent. Occasionally an individual state has amended a law so as to eliminate the requirement of a particular subject, but this has almost always been more than offset by additions elsewhere. In the main, a subject once required continues to be required and to spread to other states. However, no single subject is uniformly required by direct legislative mandate in the common schools throughout the country.

Among the items showing the largest increase during the twenty-year interval ("increase" meaning the additional number of states in which a given item is now required) are the following: (1) flag display, (2) days of special observance, (3) fire drill, (4) all instruction in English, (5) physical education, (6) physical examination, (7) fire prevention, (8) agriculture, (9) Constitution of the United States, (10) citizenship, (11) history of the state, (12) patriotism.

THE OBJECTIVES OF SCIENCE IN SECONDARY SCHOOLS

In a recent address delivered at the opening of a new secondary school at Preston Lodge, East Lothian, Scotland, Lord Balfour stirred British educators to vigorous discussion of science teaching by advocating great enlargement of this type of instruction in the secondary-school curriculum. In England, as in the United States, there has been of late much effort put forth by the proponents of classical and literary education to secure the retention, if not the expansion, of the purely cultural subjects in the schools. Lord Balfour took the position which Herbert Spencer took seventy-five years ago and advocated science as a source of culture and as a foundation of industry. He said that he was gratified at the prospect of a larger emphasis on science in the new school at the opening of which he was speaking.

In discussing Lord Balfour's speech, the editorial writer of the *London Times Educational Supplement*, who always writes in favor of the traditional practices in English education, issued a warning to science teachers which is worth careful consideration. He said in part:

There is, of course, much to be said for Lord Balfour's point of view, but that point of view must depend for its validity on first-class science teaching. The best teaching depends on the teacher rather than on the elaboration of machinery for teaching. It has been a complaint in the technical colleges that the practical science teaching in secondary schools has, in many cases, been so inefficient and so misleading that the whole of the work has had to be unlearned before practical progress could be made. Lord Balfour would doubtless admit that science teaching in secondary schools, if it is to be of any value as a basis for the development of industry, must be founded on a sound knowledge of elementary mathematics, must be thorough, must, above all things, not be scrappy and incoherent, and must form the basis of efficient specialization. Lord Balfour boldly faces the fact that specialization is the goal. No one knows better than he that specialization is not likely to be effective unless an adequate basis is laid. How is this to be secured, not only at Preston Lodge School but in all secondary schools? The curriculum of secondary schools necessarily has had to be enlarged in the past half-century, but the trouble to which the enlargement of the curriculum has led is that every pupil is expected to have a scrappy knowledge of many unrelated subjects and fails to secure an exhaustive knowledge of fundamental elementary subjects. That is why eminent men in the university grade of technical education are tempted to look askance at the products of science teaching in secondary schools. The pupils from these schools who pass to the technical colleges have been through a science course which they were not fit to enter. They have not been trained to think and to love knowledge for its own sake. Lord Balfour dwelt on the need for a disinterested love of knowledge. It can only come from a liberal and thorough preparatory education.

Perhaps some proof that secondary education has not reached the stage at which practical science teaching is likely to be an effective part of the curriculum in the sense indicated by Lord Balfour is shown by the somewhat depressing figures in the recent examinations for certificates of the Oxford and Cambridge Schools Examination Board. The percentage who passed with credit in additional mathematics is astonishingly low if it be considered that the candidates who take the subject are the very class of people who are likely to adopt a technical career. Of the 1,544 who passed in additional mathematics at the school-certificate examination last July, only 450, or under a third, passed with credit. Of the 990 who passed in physics, only 419 passed with credit. Of the 1,172 who passed in chemistry, only 507 passed with credit. Of the 1,461 who passed in "physics and chemistry," only 616 passed with credit. Of the 378 who passed in botany, only 67 passed with credit. Most remarkable of all is the fact that of 500 who passed in general science, only 155 passed with credit. These figures are disquieting and seem to show that the teaching of science in the secondary schools stands at too low a level; they seem to justify the criticism from time to time leveled by the technical colleges at the science teaching in the secondary schools. The results are the fruit of scrappy unco-ordinated teaching

and the absence of a thorough basis of mathematical teaching. Even in the higher-certificate examination the same criticism may be leveled with justice. Of the 319 who took the mathematical group, only 59 obtained distinction; of the 334 who took physics, 11 obtained distinction; in chemistry 7 out of 383; in elementary science no candidate obtained distinction. In all, 449 took the science group; 318 passed; and only 25 papers obtained distinction. Something must be very wrong with science teaching in secondary schools.

The answer to this editorial that would undoubtedly be made by some is that the objective of science teaching is much broader than the preparation of specialists. Every modern boy or girl has a right to an introduction to some of the methods and results of science. No one would advocate superficiality in the science class, but, on the other hand, it is doubtless extreme to advocate high technical perfection on the part of all students of science in the secondary school. It is certainly out of place to deprive those who are never going to be scientists of all opportunity to know what biology has discovered about life and what has been learned about the laws of nature through the investigations of physics and chemistry.

Lack of perfection in the teaching and in the learning of any subject is a defect, and it may be more common in science than it should be. We can hardly accept the indictment of science, however, if it is understood to be based on the notion that all instruction and all learning in the literary subjects are successful beyond reproach. Perhaps the solution of the problem which the editorial raises will be reached if the scientists devote more attention to the perfection of methods of teaching and if they arrive at a better definition of the objectives of science courses.

FOREIGN LANGUAGES IN FRANCE

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The present year has seen the appearance of the report of the Classical Investigation. This investigation represents a very serious effort not only to justify the retention of Latin in the curriculum but also to ascertain the most effective methods of attaining the objectives presented in the report. While this report was being prepared, the Modern Foreign Language Study, sponsored by the Carnegie Corporation, was launched.

In the light of these two investigations it is proper to conclude that the status of foreign-language teaching in America is still an open question. It seems pertinent, therefore, to consider the foreign-language situation in France, whose educational system is one of the most highly organized in the world, as well as one of the most effective.

It would seem wise, before entering into *medias res*, to consider briefly the French system of secondary education. At the age of eleven the pupil enters the lycée, which covers the field of secondary education exclusive of the practical arts taught in the professional schools.

Figure 1 indicates diagrammatically the general idea of the courses of study which are offered in the lycées to French boys. In order fully to comprehend the explanation of the changes in the system, it is essential to understand the two curriculums, A and B, which continue during the four years of the first cycle, or Forms 6 to 3, inclusive. In Curriculum A the emphasis is on Latin, which is offered seven hours a week as compared with three devoted to the study of the mother-tongue. In Curriculum B there is no Latin, the greater emphasis being on the mother-tongue, a modern language, and science. The second cycle is three years in length, one year devoted to the second form and two years to the first. At the beginning of the second cycle or of the second form Curriculum A is

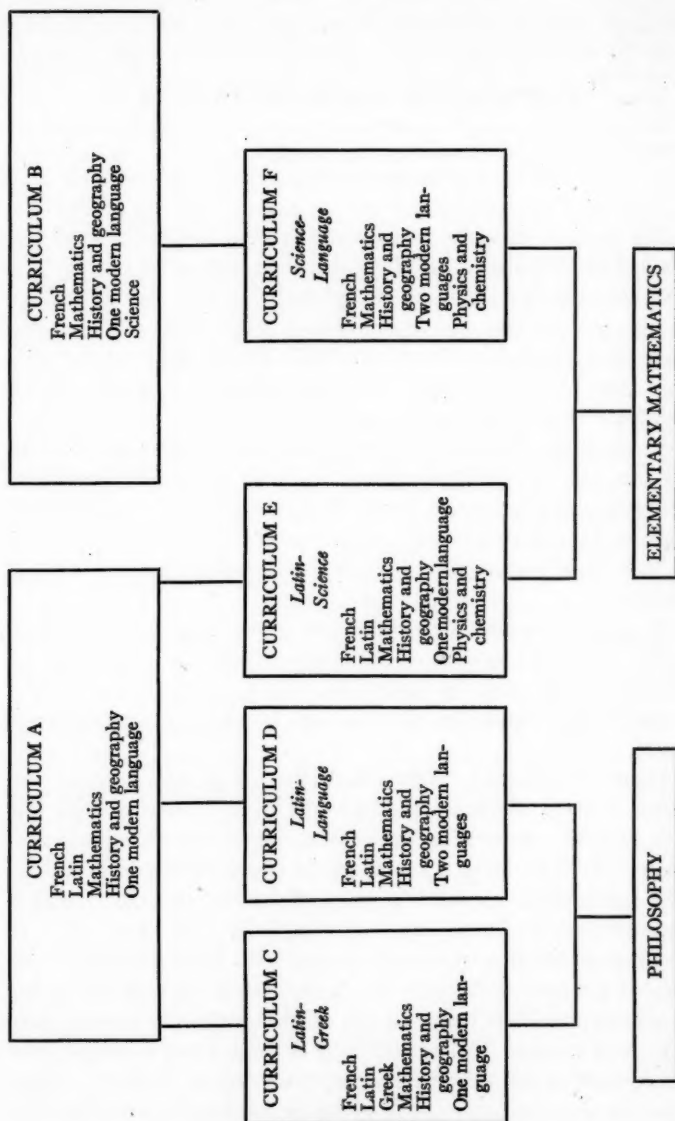


FIG. 1.—The curricula of the lycée

subdivided into three curriculums. The first curriculum specializes in classical culture; the second provides for a fusion of Latin and modern languages, while the third includes two sciences. During the seventh year—that is, the second part of the highest form—Curriculums C and D converge and become a curriculum called “philosophy,” while Curriculums E and F combine to form a curriculum called “elementary mathematics.” This means not that philosophy and mathematics only are studied but rather that these subjects are assigned the greatest number of hours in the curriculum.¹

With the curriculum of the lycée before us, we may proceed to the consideration of the relative places occupied by the foreign languages in France. In 1902 a sweeping educational reform took place. The minister of public instruction, M. Georges Leygues, not only imposed the direct method for the teaching of modern languages but also abolished the obligatory study of Latin and Greek and granted to the modern languages five hours a week in both Curriculum A and Curriculum B during the first four years of the lycée.

In Form 2 and the first part of Form 1—that is, the fifth and sixth years of the lycée—Curriculums C and E have but two hours a week for one modern language, while Curriculums D and F have one hour for one modern language and four hours for a second modern language. The seventh year sees the modern language reduced to one or two hours a week.

The January and February, 1923, issues of *Les langues modernes*, which is the French counterpart of our *Modern Language Journal*, gives the following schedule for modern-language teaching in Curriculums A and B: in the sixth and fifth forms, five hours a week; in the fourth and third forms, four hours a week for those studying Greek and five hours a week for those not studying Greek; in the

¹ Since this article was written, a new ministerial decree has been issued, bearing the date of June 5, 1925. In the sixth form, six hours a week of Latin and four hours a week of one modern language are allotted to the pupils of Curriculum A. As before, the pupils of Curriculum B are not required to take Latin. Like Curriculum A, Curriculum B is allotted four hours a week for one modern language but, in addition, is given one hour a week of practical exercises. In the place of Latin, the pupils of Curriculum B have three additional hours in the study of the mother-tongue, as well as additional hours of practical exercises in geography and natural science. The general scheme as outlined remains in effect. The languages hold their own. The principal point is that practical exercises are imposed by ministerial decree.

second and first forms, two hours a week for those studying Greek and four hours each for the first and the second modern languages for those not studying Greek. In the last year, or the second part of the first form, modern-language studies are reduced to two hours a week.

This was the situation when, after much consideration and discussion, yet without waiting for the end of a discussion being held at the Chamber of the Deputies, the minister of public instruction, M. Léon Bérard, issued a decree on May 3, 1923, to the effect that Curriculum B should be eliminated and that Curriculum A should be the one and only program required for every French boy studying in a lycée in France. This meant that the classical culture of Latin and Greek studies was to be imposed upon every pupil seeking the *baccalauréat*, that modern languages were placed distinctly in the background, and that six years of Latin and two years of Greek, the latter of which was to be taken up in the fourth form, were made absolutely obligatory. Obviously, this represented a distinct victory for the classical studies over the modern. Among other reasons assigned by M. Bérard for what many consider an arbitrary decree was the fact that the majority of the competitive prizes had been won by students of Curriculum A, where classical studies predominated. Furthermore, since the commercial and technical schools took care of most of the pupils who needed a purely utilitarian education, the clientèle of the lycée was such as could best profit by the classical studies. In addition, M. Bérard criticized the modern studies for their undue emphasis on the utilitarian aspects and commercial values of modern-language study and for their neglect of the cultural possibilities. He was further influenced by the feeling that no Frenchman can have a complete grasp of his mother-tongue without a thorough study of Latin. In his criticism he was quite right, for the whole spirit of the modern-language reform of 1902 was that modern languages should be taught for their practical values as commercial, diplomatic, and social assets. As will be seen in our later study of the methods used, the advocates of the direct method, backed by ministerial decree, went beyond all reason in their attempts to attain this one-sided aim in the study of modern languages.

At any rate, under the Bérard régime, when classes opened on

October 1, 1923, approximately twelve thousand French boys entered the lycées. All were required to take up the study of Latin seven hours a week with the idea that they would continue the study of this subject for six or seven years, as the case might be. Strange as it may seem, there was an increase of 43 per cent in the enrolment. The classicists declare that this was a great victory for classical culture. The champions of modern languages, on the other hand, say that another reason must be sought, since a similar increase was found in the fifth form, which was not affected by the decree. It would seem that parents were influenced by the belief that Latin is the key that will open all doors and so decided to take advantage of it. Such was the situation that obtained in 1923-24.

The fall of the Poincaré administration brought the appointment of a new minister of public instruction, M. François Albert, who promptly proceeded to modify the decree of M. Bérard by removing the necessity for the study of Latin and Greek and by restoring Curriculum B. Though he restored Curriculum B, he inaugurated a change of procedure and set up a new set of objectives. It is very interesting to note in this connection that of the six hours a week allotted to modern languages in the sixth and fifth forms, one is to be devoted to supervised study, called *direction d'études*. Instead of being used merely for utilitarian purposes, the modern languages are to offer a more substantial type of training, which shall turn toward a sort of modern humanities. To exploit the cultural possibilities of modern languages by abundant reading and to modify the enthusiasm for the purely utilitarian values appear to be the aims of the present minister of public instruction. He says that it is a mistake to consider the modern languages as inferior to the classical languages. "I do not want a difference of degree to exist between these two forms of teaching. I want to place Latin and Greek with other studies which shall be just as educative in something of a different manner but which shall shape the mind and intelligence of the child and at the same time give him practical knowledge which may be useful in the future."¹ Such, then, is the

¹ François Albert, *Le journal* (September 12, 1924), and *Le temps* (September 13, 1924).

place in the curriculum accorded to modern languages in France today.

Now let us take up the question of method. In the case of Latin and Greek the method employed has been, and continues to be, the grammar-translation method. The direct method, however, has been obligatory for modern languages since 1902. The direct method as applied in France from 1902 to 1920 contained a very large ingredient of the natural method. It made no use of phonetics and included very little grammar, no prose composition, and very little translation. It is true that it did adapt the natural method to the needs of the classroom. In view of the fact that until 1920 the modern-language test for the *baccalauréat* consisted merely of an exercise in free composition and of a test of oral facility, it is proper to conclude that the purely utilitarian partisans held undisputed sway. However, it became evident that there was a lack of solid training and that the pupil's knowledge of the foreign language was rather shapeless and, though facile and practical, did not measure up to the standards which the university thought it should attain. Therefore, on February 13, 1920, it was decreed that a *version*, which is a translation from a foreign tongue to the mother-tongue, should be part of the test for the *baccalauréat*, as well as a *thème d'imitation*, a sort of prose composition based on a previously studied passage. The immediate effect of this change in the test for the *baccalauréat* was to modify the procedure in modern-language teaching during the last two or three years, with the result that, while the first two or three years remained unchanged and used the direct method as always, toward the latter part of the sequence there were introduced translation and prose composition of the *thème d'imitation* type. It is very interesting to note that this procedure corresponds exactly to the methods used by the leading teachers of modern language in the United States. Advanced thinkers in the domain of modern-language pedagogy believe that the study of a language should begin with the use of the language and proceed from usage to a gradual codification of the principles governing the combination of words. Unless this is done, the chances of retention of what has been learned are lessened. It seems that it was the realization of the lack of organization of the mass of material acquired in the

early years of the sequence which inspired the reform requiring translation and prose composition as additional tests for the *baccalauréat*.

It would be a serious mistake to conclude that the teaching of modern languages by the direct method has failed in France. It is a fact that during the world-war Frenchmen were able to speak English and German successfully from a practical point of view. They have never failed to meet the situation. It would seem better to conclude that the teaching of modern languages has failed to realize the full measure of success of which it is capable—that it should give not only a commercial and utilitarian preparation but, in addition, a background which is a real and solid asset in the cultural equipment of the student.

To sum up the whole matter, then, it can be stated that the classical languages are dominant in France today. This is proved by the fact that the number of pupils studying Latin and Greek is more than twice the number of pupils studying modern languages. The reasons for this situation, such as the needs of the mother-tongue and the number of pupils who have gone into commercial and technical schools, have been previously explained. The place in the curriculum granted to the study of modern languages is the same as in 1902. The direct method has fully justified itself and has been strengthened by the addition of solid training in translation and *thème d'imitation* at the end of the sequence after the language has been acquired. Furthermore, by a decree of August 9, 1924, translation and *thème d'imitation* are to be used early in the sequence as checks on the direct method but not as methods of acquisition. In addition, a much larger reading program is to be adopted in order that the modern languages may collaborate more largely in widening the cultural horizon of the pupil by giving him a better knowledge of other civilizations. The slogan of the new objective is "*les humanités modernes*." Finally, the most amazing thing about the whole situation is the fact that in France, to whom we owe phonetics, very little use of phonetics is made in the teaching of English and of German.

What may we properly conclude from the foregoing facts? In America the proponents of the classical languages are abandoning

their stand for disciplinary values in favor of more abundant reading as a means to cultural values. The attitude on the part of the classicists tends to coincide with that of the leading thinkers in the field of modern languages. It is interesting, then, to observe the striking analogy between the situation in America and the situation in France, where the modern languages are to be cultivated not only for their practical values but also, and especially, as a means of attaining a definite cultural objective. As for Latin in France, even though the grammar-translation method has been employed, the program of reading has always been more extensive than in America, and the classicists have always heralded the study of the classics as the main source of a cultural education. Indeed, it is a French tradition that the greatest writers have developed their style through an intensive study of the classics.

What explanation can be found for this gradual, but general, gravitation toward sounder methods and saner objectives? The fact that the various movements have a fairly uniform tendency leads us to look for some common factor behind it all. Is it not possible that these modifications may be the result, direct or indirect, of the influence of specialists in the science of education?

STUDENT SERVICE IN THE HIGH SCHOOL

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The extra-curricular activities in the high school divide themselves into well-defined groups, each with its special objective: Athletics makes its appeal to the physically active and has a tremendous influence in developing school spirit and arousing public interest; social activities have pleasure as their main objective, at least in the minds of the participants, but the acquiring of gracious manners, of knowledge of good form, and of self-confidence is of more importance than we are sometimes willing to acknowledge; debating, dramatics, and kindred activities help pupils to discover and develop special abilities which have vocational and cultural values; philanthropic activities arouse an interest in the less fortunate of the community and help to make pupils feel a responsibility for the bettering of conditions; activities in the line of service to the school may be the means of lightening the routine work of teachers and school secretaries. The possibilities in the last-named activities are the subject of this article.

In schools which do not have student-government organizations to take care of discipline, traffic, sanitation, and other matters, there are individuals and groups of pupils performing duties formerly belonging to teachers and secretaries but now delegated to pupils, though the responsibility for the proper performance of these duties cannot be delegated.

1. What can be done by pupils to relieve the secretaries in the office?

a) *Information clerks.*—A pupil who has the ability to meet people may be placed at the information desk. This pupil clerk must have the necessary information well in mind, for if he must consult the head of the office force continually, he is of little value. Information ordinarily required should be tabulated by the secretary and be available for use by all pupil office help. This tabulation

should show (1) session rooms and their grades, (2) names of session teachers, (3) daily programs of teachers, (4) extra-curricular activities, the teacher sponsors, and the pupil officers, (5) special assignments of teachers, (6) special assignments of duties to the members of the office staff, (7) ordinary school supplies and rules governing their distribution, (8) rules concerning visiting in the school, (9) special procedure to be followed by (a) pupils wishing school records, (b) pupils wishing to be excused, (c) pupils leaving school, (d) anyone wishing to do something out of the ordinary routine of the school day, (10) other rules and regulations which are necessary.

b) *Telephone clerks.*—A pupil may take all incoming calls over the telephone. If the person called is free to answer the telephone, he will be notified; if not, the clerk will take the message or the name and telephone number of the person calling and see that it reaches the person called.

As soon as the names of the absentees for the day come to the office, the telephone clerk may call the homes of all pupils suspected of truancy. If the conversation over the telephone passes beyond the simple notification and the statement of the reason for absence, the secretary may be called to take charge.

The same pupil may also have charge of the calls over the intramural telephone. The messages are usually such that they may be handled by a pupil.

The telephone clerk, like the information clerk, must be chosen for his ability to make contacts with parents and teachers without friction and to keep the information needed well in mind.

c) *Filing clerks.*—Filing is a slow and tedious process; yet it can be done by pupils once they see the importance of accuracy and of care of the material filed. Filing requires no special ability, requires no great degree of speed, and may be started by one pupil and finished by another. Correctness in alphabetizing and clean hands seem the prime requisites.

Pupil clerks may file enrolment cards, program cards, scholarship sheets of pupils who have left, final record cards, and other cards used from time to time for special purposes. Objections are made to the handling of scholarship records by pupils, but the writer can see no reason for this when the work is under the constant supervision

of an office secretary. Pupils should not file letters and bulletins from which they might derive information not intended for the student body.

d) *Addressers*.—Addressing is a time-consuming task which can easily be taken over by the commercial department of the school, if there is one. If there is none, it would not be difficult to organize a group of rapid, neat writers to relieve the secretaries of this work when the addresses are to be taken from lists and the same material is being sent to all on the list.

e) *Typists*.—Even where the school has no commercial department, it is possible to find typists of enough ability to fill in the blanks on post-card notices, form letters, and the simpler of the questionnaires which continually come to the office. It takes but a few minutes for a secretary to read these over before mailing. A carefully selected upper-class pupil who has had experience in the office should be chosen for this work.

f) *Duplicators*.—The duplicator plays a large part in the school which has no printing department. If there is no commercial department, it is hardly worth while to train pupils to make stencils, but it is a matter of only a few minutes to teach them to run a duplicator.

g) *Messengers*.—With an intramural telephone in good working order and definite days for the distribution of supplies, messengers to go from one part of the building to another are not often needed. One could always be within call in an emergency. Messengers are needed, however, to do errands outside the building. The school is taking a responsibility when it sends a pupil on such an errand. It should not be done except under the stress of necessity, and the pupil should be carefully selected.

h) *Managers of a lost and found department*.—Every school has its lost and found department. Sometimes a secretary is in charge of this department; sometimes it is managed by the pupils. A well-organized department manned by pupils gives those in charge training in business-like methods and tends to teach the rank and file to take better care of their property. Since the guards about a building have the best opportunities for picking up lost and misplaced articles, the task of organizing and running the department is often given to them.

2. What can be done by pupils to relieve teachers of some of the management of the corridors?

a) *Guards.* (1) *At the doors.*—In large schools in congested districts it is necessary to station guards at the doors to check all who enter or leave the building during the school session and to direct strangers having business in the building. It would seem wise to designate one or two doors for use during the school session and to station there especially trustworthy pupils who have familiarized themselves with the signatures of the teachers. No pupil should be permitted to leave the building unless he gives the guard a pass issued by the teacher dismissing him. In most schools there are pupils who will succumb to the temptation of spending a study period in a store near the school. Door guards with a keen sense of honor and of their responsibility to the school will make this slipping out almost impossible.

Pupils entering after the opening of school may be given tardy slips by the door guards, who will place duplicate slips in the session teachers' office boxes.

(2) *In the corridors.*—Guards stationed in the corridors may have a variety of duties. Responsibility for the property of pupils in the lockers requires them to examine the locks to see that they are securely fastened. Pupils in haste to reach classes often half close a lock. This responsibility also requires that no pupil should be permitted to open a locker during a class period unless he carries authorization from his class teacher. While it is advisable that pupils do not go to lockers during class time, emergencies arise in which not only the pupil but the entire class is penalized by a refusal to permit this. In a small school where the pupils are well known, this care of property may be unnecessary.

Guards should see that there is no loitering in the corridors. They should see that all pupils passing through have definite business there and are wasting no time in transacting it. Friction may be avoided by furnishing pupils on special errands passes stating their destinations. To save the time required to write many individual passes, each teacher or member of the office staff could be provided with special passes to be used by pupils who are to report to the person issuing the pass. When a pupil is not to return to the teacher,

he must be provided with an individual pass to be taken up by the person to whom he is to report.

When a pupil in the corridor can show no authorization for his presence, the guard may do one of several things. He may accompany the pupil to the room where he says he is due or from which he came, if the room is not too far from his post; he may call the guard marshal, who will accompany the pupil; or, if the pupil is unruly, he may call the nearest teacher. In any case, a teacher is notified that the pupil is in the corridor without a pass and assumes responsibility. Trespassers in the building should be taken to the office or put in the custody of a teacher.

Each guard should be responsible for the appearance of the corridor assigned to him. It is inevitable that papers will be dropped and unnoticed in the congestion at passing time. Putting these in the waste boxes conveniently located about the building takes but a little time and insures a clean building.

Corridor guards as well as door guards must be thoroughly familiar with the building in order to direct strangers and be helpful to the new pupils.

(3) *In control of traffic at passing time.*—It is possible to have guards in charge of the passing of pupils from class to class. In a large school covering much ground it would be necessary to excuse such pupils before the end of a period and permit them to enter class late in order that they might reach their posts and remain in charge during the entire passing time. This would penalize the pupils. Since teachers are free to supervise at passing time, there is no necessity of doing this. However, guards may help in drawing up traffic regulations and enforcing them wherever they happen to be.

(4) *At the opening of a semester.*—At the opening of a semester guards may be stationed at the doors to direct all incoming pupils. If all I B pupils, regardless of course, are sent to one central place and then distributed, guards may take these groups to their session rooms and help the session teachers enrol them.

To have an efficient guard system organization is necessary. At the head there should be a faculty sponsor who believes that the guards are doing valuable work for the school and makes the guards feel their responsibility. He should select a chief guard marshal,

known to possess initiative, common sense, and high ideals, known to be dependable and not too easily influenced by the opinions of his fellow students. The position of chief guard marshal is one of great responsibility, and the honor attached to it should be correspondingly great. Period marshals should be in charge of all guards on duty at a particular period of the day. Their duties should be to inspect each post, fill places of absentees, report absentees to session teachers, notify the office of any class without a teacher, take care of the class until a teacher appears or a substitute comes, and be ready for any emergency. In a large school the period marshals should be assisted by floor marshals, each responsible for the guards on his floor.

(5) *At fire drills.*—If the school has an R.O.T.C. unit, it can be of service at fire drills. The uniform gives dignity and authority to the marshals in charge. However, it is possible to train any group of pupils to take charge of the lines in fire drill.

A chief fire marshal, assistants in charge of exits and corridors, and marshals for each class will take upon themselves much of the responsibility for an efficient drill. At the gong the chief marshal and his assistants hasten to their assigned posts. Class marshals direct the classes; corridor marshals see that no person remains in the building; those at the exits direct the passing through doorways where lines sometimes converge, sometimes divide, and give the signal for the return of the pupils to the building. The chief marshal oversees his assistants and reports to the office at the close of the drill to receive and give criticisms and suggestions.

(6) *In the assembly hall.*—The R.O.T.C. has a second opportunity for service by supplying ushers for school assemblies, entertainments, and other occasions when large groups of people are called together. If possible, the same group of ushers should be used for an entire semester, that each one may know his station and his duty without a special assignment each time. There might be several sets of ushers for different types of meetings, as the school ushers to report for all school assemblies, public entertainments, and commencement exercises; class ushers and club ushers to serve when only part of the school is assembling. If a school has in its membership a boy trained as an usher in a large, up-to-date moving-picture theater,

he makes an excellent head usher, even though he may not always be able to take personal charge when the assembly is in the evening.

3. How may pupils help in the session rooms?

a) *Clerks*.—Teachers may assign to pupils the task of taking the attendance, making out the list of absences for the office, making of plats of rooms and classes, alphabetizing, and filing.

b) *Collectors*.—Pupils should have charge of collecting money for all subscriptions to school papers, club dues, and funds for charity. Some form of bookkeeping should be agreed upon by the school and followed in all cases where pupils handle money.

c) *Caretakers*.—Pupils will make themselves responsible for the appearance of the rooms if the teachers will assign definite duties to particular groups and check up on the performance of these duties. What is everyone's business is no one's business; assign the responsibility definitely, and the pupils will take it.

4. How may pupils help in the study hall and study rooms?

a) *Attendance clerks*.—Pupils may take the attendance in the study hall, make out absence slips, and distribute them to the session teachers, thus permitting the teacher in charge to devote all his time to supervision.

b) *Study teachers*.—If the supervision of study pupils makes it impossible to allow teachers free periods, pupils may be assigned to take charge of the smaller study groups. This will work out well if the pupil teacher is carefully selected and is given an understanding of the standards to be maintained and the methods to be used. He must be given help and encouragement and must be supported in his insistence on obedience to study-room regulations.

5. How may pupils help in the classroom?

a) *Substitute teachers*.—When a teacher is unable to meet a class, an upper-class pupil can be placed in charge. Usually a teacher having a free period is called upon, but often the giving up of the period interferes with the teacher's own work. When a special substitute is called, several periods may pass before she arrives. A pupil teacher helps out in such cases. Pupils should not be kept from class to render such service. If each study-hall teacher selects a group of pupils capable of teaching in an emergency, it is not difficult to arrange a program that uses only the study periods of the pupil teachers.

6. How may pupils help in the library?

a) *Assistants to the librarian.*—Pupils may assist the librarian by checking attendance, giving out books, putting them away, type-writing cards, and taking charge in the absence of the librarian. This work may be part of a library-training course or volunteer service.

7. How may pupils help in the lunchroom?

a) *Checkers, ushers, etc.*—Since the service in the lunchroom is generally paid service or part of a course in lunchroom management, it cannot be considered here.

8. How may pupils help each other?

a) *Freshman sponsors.*—One of the big problems of the high school is to adjust the incoming Freshmen to the new conditions. This is where the upper-class pupils acting as freshman sponsors can be of service. Each I B group may be assigned to a sponsor whose duty it is to help the members of the group get a good start. These "big brothers" should be good in scholarship and have high ideals and forceful personalities. There must be a spirit of co-operation among them with just enough rivalry to keep each striving to the utmost. Each sponsor must set the standards for his group and keep them constantly in the foreground. These standards will vary with the group, since the group must be able to reach them.

b) *Coaches.*—The best possible service a pupil can render his school is to keep another pupil from failing. Pupils willing to help in this way and recommended by their class teachers may be organized into a coaching committee. The chairman of the committee should secure the programs of the members and make a program of coaching periods for each subject. This program may be published in the school paper so that any pupil desiring help may know to whom to apply for it. The coach should consult the class teacher to find out the kind of help needed by the pupil. If it is not possible to set aside a room to be used for coaching, a corner of the lunchroom or corridor will do.

While many possible forms of service have been listed, it is not probable that many will be used in any one school. Each has been used by some school.

Is this service valuable to the school? Should it be rendered except in an emergency? It is undoubtedly true that the paid service

of assigned clerks and teachers would be more efficient. Pupil service requires continual recruiting and training, though, as the service becomes a well-recognized part of the school routine, much of the training may be done by pupils who have had experience. But there is a real gain to the school in the spirit of co-operation engendered and in the understanding of school conditions secured on the part of all the pupils engaged in the work. One truant, sent to the office by a substitute teacher when extra help was needed, was so efficient that the secretary asked him to report the next day during his study period. He became a fixture in the office until he was obliged to leave school, not only making a record for perfect attendance but making the honor club, which requires four E's for membership.

If we are to permit pupils to assist in these ways, how shall we choose them? One very common method is to accept volunteers. This method insures willing workers but not necessarily competent ones. Too often the volunteer dislikes study and will do anything to avoid it. Usually such a pupil is as inefficient in his student service as in his class work. Another disadvantage is that the good student is engrossed in his work and thinks that there are plenty of others who will volunteer. Then we have the pupils who lack the courage to volunteer but do well when drafted.

A second method permits teachers and secretaries to choose helpers in any way they see fit. If this is done, there is danger that in the case of positions carrying special honor the feeling may develop that teachers' favorites are appointed.

Sometimes positions are filled by the vote of the student body. Unless the campaign is wisely handled, this may lead to selection on the basis of popularity, not ability. This objection does not apply to the election of class marshals and home-room helpers, where the group voting is small and the candidates are well known.

Another method of selection is to ask the student council to recommend pupils for service. If certain standards for each position are defined and pupils who reach those standards are asked to serve, service is put on a high level. If it is to supply pupils in sufficient number, this method requires an educational campaign to familiarize the school with the plan and secure the loyal co-operation of the student body.

How is the service to be recognized by the school? Usually the pupils working in the lunchroom and sometimes those in the library and in charge of the telephone are paid. In the lunchroom this may be in food, money, or credit in lunchroom-management courses; in the library, money or credit in a library-training course; at the telephone, in money or credit in a commercial course. In some cases a certain amount of credit toward graduation may be earned through extra-curricular activities.

Many pupils give their services with no thought of reward. They enjoy the feeling of responsibility for the work and the knowledge of the "inside workings" of the school which they gain. In many schools each position carries with it special honor, special privileges, or a certain number of honor points which may be accumulated toward membership in honor societies. Where an honor-point system is used, points are gained for excellence in scholarship, for participation in any extra-curricular activity, and for perfect attendance. The working out of a table of points requires careful consideration of the relation of each type of activity to another and their relative importance to the school and the pupil. In the Tilden Technical High School points accumulate for admission to the Senior Council, but, since that seems so far away to the average pupil, each spring an achievement dinner is given in honor of those in each class who have won the greatest number of points during the preceding year, February to February. The best pupils in the freshman class are chosen to serve at this dinner, since they are not eligible for an invitation. Pupils are very proud of their invitations and try very hard to secure them. This recognition has made it easy to obtain help when it is needed.

ENLARGING THE HORIZON OF HIGH-SCHOOL PUPILS

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Most people of mature years realize how little they know as compared with what they would like to know. Most Seniors in college could easily spend another three or four years of study in taking courses which they would really like to pursue. Every good workman, be he artist or artisan, desires to know more of the fields of knowledge allied to his own. The belief of the principal of the Santa Barbara High School that high-school pupils share this common desire gave him the idea for a series of courses that should satisfy the demand.

Before any definite steps were taken, the plan was discussed with both pupils and teachers. The old ideal of *Lernfreiheit-Lehrfreiheit* was emphasized. Each member of the faculty who wished to do so was asked to suggest a subject, preferably along the lines of his own hobby, which he would enjoy discussing with pupils for two half-hour periods a week and which he felt that he could make profitable for them. After an informal discussion in an assembly in which the possibilities of such a plan were suggested, the pupils were asked to hand in unsigned slips naming the courses which they would be interested in having given. Their response was immediate and enthusiastic.

The result was that in September, 1924, the so-called "popular-course" plan was instituted. The first problem, from the administrative side, was to find the time for these classes. The school had always had just before noon a fifteen-minute roll-call period, which was used for roll calls (class meetings), assemblies, and student-body meetings. This period was lengthened to thirty minutes and moved to a place between the second and third periods of the day, in order not to interfere with the double periods in science work. Friday was kept for the student-body meetings, thus giving four days a week

for the popular courses. As they were all two-period courses, each pupil had the opportunity to take two. Nearly two-thirds of the faculty were glad to try the experiment, and the following courses were listed: astronomy, art appreciation, ethics, psychology, logic, history of California, popular science, technique of games, music appreciation, community singing, conversational Spanish, conversational French, current topics, office appliances, modern poetry, the short story, study of occupations, how to study, use of the library, the slide rule, and chemistry arithmetic. For those who were deficient in the fundamentals, opportunity courses were offered in reading, arithmetic, spelling, penmanship, and grammar. There was a great demand for courses in radio, electricity, and the care of the automobile, but, because of lack of equipment, these courses could not be offered. The plan of the "popular courses" was to provide both enjoyment and information in subjects for which the pupils had no time during their regular courses—a plan which rather precluded the thought of credit. However, since some pupils wished credit, it was decided to give weighted credit, two points for excellent work and one point for good work, with the hope that few pupils would be interested in the credit alone.

At the beginning of the second semester the plan was somewhat changed. It was found that more time was needed for the Honor Scholarship Society, for the Welfare Committee, and for the Council, the governing board of the student body. Also there was a need for meetings in larger groups. Hence the time allotted to the "popular courses" was reduced to two days a week, which permitted pupils to choose only one course. Out of this change has grown what is regarded by the faculty as one of the most worth-while of the extra-curricular activities of the school. Briefly, the plan is as follows: On Monday the principal meets the Seniors in the Little Theater, and they discuss "Life's Values." At the same time the vice-principal meets the Juniors for a discussion of "Self-government." The Sophomores (who under the junior-senior high school plan are really the Freshmen) at this same period are divided into four groups. One group is given instruction in etiquette, the second in good citizenship, the third in "how to study," and the fourth in the fundamentals of school sports and good sportsmanship. These groups

rotate, so that during the semester each group receives instruction in all four subjects. The weekly schedule last semester was as follows: Monday, the instruction just mentioned; Tuesday and Thursday, "popular courses"; Wednesday, Welfare Committee and Council meetings, Honor Scholarship Society, and clubs; Friday, student-body meeting. All pupils who are not in some special meeting on Wednesday meet in the auditorium for community singing.

At this point a question naturally arises with regard to results. Have they justified the time taken and the effort involved? Perhaps the question is best answered by the pupils themselves. There were many expressions of regret when it was announced that only one popular course would be possible in the second semester. In several classes, unsigned comments were called for, of which the following are characteristic. One short-story pupil said, "I have read more than 150 short stories." None were required, and the average of the class was about fifty. The slide-rule class had about fifty boys enrolled, but it had to be reduced to thirty-five, the capacity of the room. Two comments on modern poetry were as follows: "The course has given me a fresh set of lovely thoughts." "I chose poetry for my popular course because I never cared for poetry and wanted to see if I couldn't learn to appreciate it, and I have learned to like it." A current-topics pupil said, "I find that I am more ready to read the *Literary Digest* and such books than I was before." From an astronomy pupil came the following: "I have been able to locate some of the constellations and have found out many interesting things that I had never thought of before. I wish to continue the subject in college." A California-history pupil said, "It interested me so much that I read all I can about history pertaining especially to California. Second, I learned that some things are not as dry and uninteresting as I had thought they were." From the teachers' standpoint, the courses have been worth while in several ways. They have given the teachers a chance to meet the pupils outside their own departments and to meet them rather informally. Then, too, it has given them a chance to organize their own hobbies, and thus to get greater pleasure from them, as well as to inspire others with them.

To sum it all up, the "popular-course" plan, with its hand-

maiden, the Monday group meetings, enables the principal to become acquainted with the Seniors and to share with them some of his thoughts and ideals; the vice-principal to hold before the Juniors, the leaders of the following year, the ideals of self-government and acceptance of responsibilities; the entering class to secure instruction in the technique of study and in how to conduct one's self at the table, in the home, at school, on the street, and at games according to the regulations of good society; deficient pupils to be grouped according to their needs for instruction in the fundamentals; all pupils who do not need instruction in the fundamentals, somewhat as a reward, to accompany teachers at their best into various realms of art, science, and knowledge so that their superficial ideas may become a little more organized, a little more accurate, a little less superficial.

AN EXPERIMENT IN TEACHING ENGLISH USAGE TO JUNIOR HIGH SCHOOL PUPILS

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The purpose of this article is to report the second phase of an experiment, the object of which has been to determine the most effective technique for teaching essential matters of good English usage to junior high school pupils so as to establish in them right habits and attitudes toward correctness in speaking and writing.

The evidence gathered during the first phase of the experiment¹ revealed a mere "lesson-learning" attitude on the part of the majority of the pupils; that is, they accepted instruction in matters of usage with docility or resignation but felt that their responsibility for the use of the facts and principles learned ended when they left the English classroom. The major fault of the teaching appeared to consist in the failure to establish in the pupils right attitudes of responsibility rather than in the failure to implant clear understanding and ability to use the facts and principles learned. Consequently, in the second phase of the experiment modifications of technique were made chiefly with a view to creating conditions which would emphasize (1) the pupil's own need for the instruction given, (2) his personal responsibility for using in all written work the principles and the facts learned in the English class, and (3) the fact that all written work, whether in science, or geography, or art, or English, is equally valid evidence of his need for instruction in usage and of his mastery of the principles studied. The creation of such conditions was made possible by the generous co-operation of instructors of science and geography classes.

The chief differences between the technique used in the first phase of the experiment (1923) and that used in the second phase (1924) may be briefly summarized as follows:

¹ Edith E. Shepherd, "A Preliminary Experiment in Teaching English Usage," *Studies in Secondary Education*, II, 91-108. Supplementary Educational Monographs, No. 26. Chicago: Department of Education, University of Chicago, 1925.

1923

1. Group instruction: all pupils studied every lesson.

2. It was assumed that if a given mistake occurred frequently in the work of the class, all would profit by instruction in the matter.

3. Mastery was assumed if a pupil could pass a test showing comprehension of the principle studied and ability to apply it to a few sentences.

4. No individual records were kept by the pupils.

5. Work was confined to exercises in the textbook and to papers written in the English class, except that one paper from the science class was used for a punctuation exercise.

6. The teacher of English did not see the written work of the pupils which was done in other classes, with the one exception noted in 5.

7. Excellence of written work was commended, and the pupils who wrote carefully and accurately were not compelled to do much re-writing and correcting. There was no connection made, however, between excellence of written work and the amount of usage they required.

8. Such co-operation in securing good English as existed between departments was quite unknown to the pupils. All instructors were expected

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1. Individualized instruction: no pupil studied any lesson unless he could be shown his personal need for it.

2. The mistakes made by each pupil in his written work determined the lessons assigned to him.

3. Evidence of mastery was considered to be subsequent correct use in written work. Test results were considered chiefly a basis for justifying the instructor in holding the pupil responsible for correct usage.

4. A record of the lessons needed and of the lessons studied was kept by each pupil for himself and by the teacher for each pupil.

5. Papers from science and geography classes were used as the basis of many exercises in usage.

6. Written work from science and geography classes was known by the pupils to be the basis on which the instructor judged pupil need and pupil progress in usage. Such papers were generally to be found on the desk of the English instructor.

7. The pupils who wrote accurately—that is, with few mistakes in usage—had few lessons in usage to study and consequently were frequently allowed to spend the class hour reading in the classroom or in the library. Sometimes they were even permitted to use the tennis courts for the hour. These privileges were valued highly.

8. The pupils knew that their instructors in English, science, and geography conferred about their written work. They saw these instructors in

to demand respectable English in all written work.

conversation, saw papers exchanged between the departments, found science and geography papers almost constantly in the English room, and were informed of the results of the conferences. One science instructor sometimes sent pupils to the English teacher for help in correcting mistakes which the pupils could not find for themselves. Co-operation of departments was made *obvious* to the pupils.

The procedure followed in the individualized technique outlined should perhaps be more fully described. Individualization was complete and rigidly adhered to. The fact that a given pupil made certain mistakes in his writing was considered sufficient evidence that he needed instruction. This basis for selecting the lessons to be studied left no doubt in the pupil's mind as to the practical use which he was expected to make of the facts and principles learned. The aim, of course, was to show the futility of the lesson-learning attitude.

This method of determining the content of the course for each pupil required somewhat elaborate record-keeping in order that both pupil and teacher might know exactly the lessons required and the lessons that had been studied and completed. The names of the pupils in the class were written across the top of the record kept by the teacher. Twenty-eight common errors of usage were listed at the left. Errors discovered in papers written for geography, science, etc., were indicated by tallies in the appropriate squares of the pupil's column. A lesson completed was indicated by a cross in the appropriate square. The record of any pupil could be found by reading down the column headed by his name. The number of pupils in the class who should be required to study a given lesson at any time could be determined by reading across the blank. A new record sheet was used each month in order that there might be some information on file as to the time when a pupil had studied a given lesson. This was of value in determining whether pupils continued to make mistakes of a given kind after they had studied and passed tests on the usage principles involved. The teacher's record sheet was frequently

placed on the bulletin board in the classroom for a day or two at a time in order that the pupils might compare it with their individual records. The pupil's record was very simple. It consisted merely of a list of the lessons to be studied by him. He obtained the items of his list from the marginal notes made on his papers and copied them in his notebook on a page reserved for the purpose. When he completed a lesson, he placed a star before the appropriate item of his record and noted the date.

In order to determine the content of the usage course for each pupil, the English instructor secured papers from the science and geography classes, read them, and on the margin of each pupil's paper made notes of all lessons which the pupil needed to study—that is, "agreement," "capitalization," "use of the colon," etc. At the same time the instructor marked his record blank, indicating the lessons to be studied by each pupil. When the pupil received such a paper at the beginning of an English class period, his first duty was to list in his notebook the lessons indicated in the margins of his paper. Next, he was to correct all such errors as he could without specific usage study—for example, errors in spelling and errors due to carelessness. The pupil was aided in locating errors by checks placed in front of the lines containing errors. The same check was used for all kinds of mistakes, and the pupil was held responsible for finding the specific errors. Finally, he was to ask the teacher for help in correcting all other mistakes marked and, if the corrections were numerous or not neatly made, to copy the paper carefully for return to the department from which it came.

A later period or series of periods was devoted to specific study of usage lessons. Mimeographed material designed for the purpose was used. It included about sixty lessons, each planned to teach some principle of good usage frequently violated by pupils. Each lesson explained the principle involved and included a series of exercises requiring the application of the principle. Most of the lessons were simple enough to be studied from the text without help from the teacher. This was essential because of the highly individualized instruction. Theoretically, during a given period all pupils in the class might be studying different lessons. Generally, however, it was possible to gather together a group of pupils all of

whom had the same lesson to study at the same time. For example, the first science paper showed that a majority of the pupils needed to give some attention to capitalization. They either capitalized "solar system," "sun," "moon," "star," "comet," and practically all important nouns or failed to capitalize such proper nouns as "Mars," "Saturn," etc. A few pupils, however, had not made mistakes in capitalization but had made mistakes of other kinds. To each of these last named pupils the instructor assigned a lesson, the easiest lesson on his list.

The group assignment was made first. All pupils who had the word "capitals" on their lists were told to read carefully the ten rules for capitalization given and determine which had caused their trouble and which were new to them. While they were doing this, individual assignments were made to the other members of the class. By the time all these pupils were at work, the group had finished examining the rules. These were discussed; questions were asked and answered; and the exercises were assigned. While the pupils were doing the exercises, the instructor gave attention to the questions and exercises of the other individuals in the class. Finally, the exercises done by the group were checked.

When a pupil had finished the exercises, learned the principle, and felt that he understood it, he was permitted to take a test to prove his understanding and to justify the instructor in holding him responsible for the correct usage in future work. If the test was satisfactory, the pupil placed a star opposite this lesson on his record, and the instructor recorded the lesson as completed. If the test was not satisfactory, the points of difficulty were explained; further exercises were given; and a retest was required.

Obviously, under this individualized procedure some pupils had many lessons to study, and some had few. The length and content of the course differed greatly for different individuals. In order that pupils who needed little study of usage might employ their class time profitably, a literature unit was presented early in the semester. Books were made available in the classroom and in the library; reading suggestions were offered; and topics for special study were suggested. Pupils took pleasure in being released from work in usage and allowed to read or work on some voluntary project. Some pupils

spent a large part of the English class period throughout the year on literature and general reading. No pupils spent all the class time on usage and composition. The entire class gave from one-third to one-half of the time to literature, reading discussions, etc.

Every opportunity was seized to impress on the pupils the practical usefulness of the principles of usage studied. When a set of geography papers was secured in December, the pupils were asked to find out whether they still made mistakes on principles which they had studied. Sentences illustrating different principles studied were chosen from papers in geography, science, and even mathematics rather than from other sources. For example, shortly after the majority of the pupils had studied together the lesson on "agreement," the instructor noticed on the bulletin board of the mathematics room some attractive drawings done in color to show that the sum of the angles of a triangle is equal to 180° . Under three of the drawings was neatly written the following sentence: "The sum of the angles of a triangle are equal to 180° ." Under the fourth drawing was the sentence: "The angles of a triangle are equal to 180° ." When the class assembled for English next day, the instructor placed the two sentences on the board. The point was brought out that in the first sentence the subject and the verb do not agree but that, when corrected, the first statement is more accurate than the second. The next day the instructor noted that every one of the mistakes on the drawings had been corrected, though nothing was said about correction.

Further to emphasize the practical nature of the work and the individual need for it, papers from other classes were used as exercise material. When the group studying the punctuation of the adverbial clause preceding the main clause was engaged in assimilative study of the principle, each pupil was given several pages of his own written work in science with instructions to find and punctuate all sentences illustrating the principle and to keep a tally in the margin of the number of such sentences which he found correctly punctuated. One boy found twenty-five such sentences, none of them punctuated. Another found fourteen, twelve of which he had punctuated correctly. This proved to be a very valuable type of exercise whenever it could be used. The pupil who found and cor-

rected many mistakes realized his weakness keenly; the pupil who had conformed to good usage took pride in that fact.

The procedure described in the preceding paragraphs was followed throughout the year whenever time was given to usage. From time to time papers were secured from science and geography classes for use in English. Always a point was made of noting whether a pupil was observing the principles of usage that he had studied and whether he was making mistakes not before noted. Occasionally a pupil who persisted in making the same kind of mistake was required to restudy the lesson. Since this was an extreme penalty, the pupils were quick to admit carelessness and to promise to be more careful. Generally, in such cases the instructor's response was, "All right. I shall watch your written work and see whether you can remember to correct yourself."

Everything was *done*, concretely, which would aid in establishing the right attitude and habits, but very little was *said* about the matter abstractly. Pupils were not exhorted to improve their written work, but every influence was brought to bear to make them accept the responsibility for doing so. The evidence will indicate the success of the plan.

Two kinds of evidence were accumulated: evidence which measures achievement in actual ability to conform to good usage and evidence which indicates results of teaching in terms of attitude. The remainder of this article will be confined to a discussion of evidence of the first type.

Evidence of achievement is easily secured through tests. The Starch Punctuation Scale A was one of three tests given to measure the attainment of these pupils as compared with the attainment of other pupils of equal school experience. The test was given to sixty-five seventh-grade pupils in June, 1924. The results are as follows: forty-six pupils, or 71 per cent, scored higher than the standard for Grade VIII; nine pupils, or 14 per cent, made scores equal to the standard for Grade VII; ten pupils, or 15 per cent, scored below the standard for Grade VII. Not only did nearly three-fourths of the pupils score higher than the standard for pupils who have had one more year of school experience than these pupils, but thirty-three, or 51 per cent, made scores higher than the standard for Grade XII.

Of the nineteen pupils who scored at or below the level for the seventh grade, four were recognized problem cases in language-arts subjects; five others were lesson-learners according to other evidence.

The attainment of these pupils in matters of usage was also measured by the use of the University of Wisconsin Test of Grammatical Correctness A. The results show that fifty-nine pupils, or 91 per cent, made scores equal to the standard for the grade or better and that six pupils, or 9 per cent, made scores below the standard for the grade by 1 to 3 points. The standards for this test are merely tentative, according to the statement of the author, S. A. Leonard. The standard for the seventh grade, 16.44 points out of a possible 20, is given as the score of the highest fourth of the group of ninety seventh-grade pupils taking the test in the Wisconsin High School. This is "undoubtedly the lowest standard at which any class should aim." It may be noted that of the fifty-nine pupils, or 91 per cent, who attained or exceeded this standard, thirty-three pupils, or 51 per cent of the group, attained or exceeded the standard for the ninth grade, namely, 18 points out of a possible 20, which is the score of the highest quarter of the ninth-grade group of 316 pupils on whose records the present standard is based, and one point higher than the score of the highest quarter of the sophomore group of 241 pupils.

It should be said in connection with the scores of the group of pupils whose attainments and attitudes this study is attempting to measure that the University of Wisconsin Test of Grammatical Correctness A deals chiefly with the cruder grammatical errors, which do not characterize the speech habits of most of the pupils in the University High School of the University of Chicago. Indeed, only five sentences of the twenty which constitute the test deal with mistakes which were observed in the work or speech of this class during the year. These are mistakes in "agreement," confusion of "it's" with "its," misuse of "like" as a conjunction, and use of the wrong case form of the personal pronoun. It is interesting to note with regard to the last of these that, though only one pupil in the class was known to have made this error during the year, and she only once, a large majority of the whole class used a subject form

to fill the blank in Sentence 13, "Mr. James invited you and —— to ride." The pupils needed instruction on this point in spite of the fact that their speech and written work in school showed no errors. When this test was discussed with the class, the pupils demanded to be told "how to tell whether to say 'I' or 'me.'" Only two of the sixty-five members of the class told by grammatical construction; several knew that the correct form must sound right when the first pronoun is omitted, or, as they expressed it, "You wouldn't say 'Mr. James invited I.'" Most of them "just guessed" because they knew no better way. Many confessed to spending more time on that sentence than on any other.

Furthermore, it should be said that, in every case but one, pupils who made mistakes in Sentences 1, 4, 10, or 20 of the test were pupils who had not studied the lessons on "agreement," the correct use of "like," and the difference between "its" and "it's," because mistakes in using these constructions had not been observed in their work. Evidently the high scores were due not to recent teaching but to good habits of speech. To a great extent the low scores were due to the failure on the part of the instructor to diagnose completely the needs for teaching.

The third measure of the level of ability in usage attained by these pupils was made through the use of a set of tests worked out for the purpose of testing pupils who enter the University High School with regard to their ability to conform to standards of good usage. These tests are unstandardized, but the following facts indicate that they are fairly effective for the purpose of measuring general usage ability. On the basis of high scores in these tests, twenty-two pupils entering the school in October, 1923, most of them Freshmen, were excused from the semester course in usage. In order to test the validity of this procedure, a list of the names of these pupils was sent in May, 1924, to all instructors in whose classes they had been enrolled during the year. The following note accompanied the list.

The following pupils were released from formal work in usage this year on the basis of pretests given in June, 1923. Has the quality of the written work done in your class by these pupils justified our interpretation of the test results? Please express your judgment in this matter by writing "Yes" or "No" opposite the name of each pupil with whose work you are familiar.

A total of fifty-eight judgments was received, of which fifty-three were affirmative and five negative. The five negative judgments concerned only three of the twenty-two pupils: one pupil received two negatives; one received two negatives and one affirmative; and one pupil received one negative and one affirmative. On the whole, the teachers' judgments seemed to support the interpretation of the results of the tests. In other words, pupils able to score 90 points out of a total of 160 could probably satisfy their instructors with regard to their ability to conform to good usage requirements.¹

This same group of tests was given in June, 1924, to the sixty-five seventh-grade pupils with whom this study is concerned. The results follow: Forty-four pupils, or 68 per cent of the class, were ready to be excused from further work in usage. Twenty-seven of these pupils scored from 100 to 149, and seventeen pupils scored from 90 to 100. Twenty-one pupils, or 32 per cent of the class, needed individual study and further instruction. Of these twenty-one pupils, analysis showed that eight failed by ten points or less, scoring from 80 to 90, that four were known language problems, and that nine failed for reasons not easily discerned (five of them classified as lesson-learners and non-learners in the study of attitude).

It seems fair to conclude from the evidence of these tests that pupils of the seventh grade who have attained fair ability to express their ideas are able to profit to a reasonable degree by definite instruction in matters of usage. They can attain a level of accuracy in written work satisfactory for the grade, as measured by tests supported by teachers' judgments and by tests which have been standardized for the grade.

¹ A check on the tests given in June, 1924, was made in December of the same year. Of thirty-six pupils who scored 90 or higher, only six were recommended by their English teachers to take the usage course in the second semester.

THE METRIC SYSTEM AND THE PUBLIC SCHOOLS

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In a democracy the success of any movement which affects the welfare of the common people or deals with their daily activities depends on their understanding, co-operation, and support. Whether it be slavery, woman suffrage, or prohibition, progress cannot be made until the public mind is prepared, through educational channels, to accept the proposed innovation as a step forward. Therefore, we cannot expect progress with regard to the adoption and general use of a more convenient system of weights and measures unless we can show that the common people—mechanics, carpenters, cooks, merchants—are increasingly becoming familiar with the advantages which will be derived from the change. Since this particular project is wholly educational in its nature, we must look to the public school system for whatever advance we can anticipate.

With this in mind, a questionnaire was recently sent to fifty-two Nebraska high schools to obtain first-hand, up-to-date information on the status of the metric system. Schools in Lincoln and Omaha were included as well as schools in smaller communities. The purpose was to obtain data on the following points from the principals of these schools: (1) the arithmetic text used in the grammar grades, (2) the number of days spent in the study of the metric system, (3) the amount of practical work done as compared with more or less abstract computations, (4) the relative proficiency of the teachers themselves in metric work, (5) the extent to which metric measures are used in the high-school courses in physical science, (6) the attitude of the principal toward the adoption of the metric measures for the activities of routine business and industrial life.

Of the schools replying, 24 per cent pay no attention to those pages of the arithmetic which deal with metric weights and measures; 42 per cent spend not more than five recitations on the subject;

17 per cent devote from two to three weeks to the subject; and the remainder failed to answer the question.

Of the schools which report that they give one or more days to the subject, 43 per cent use meter sticks, metric weights, or liter measures in an effort to establish definite concepts in the minds of the pupils. The remaining 57 per cent content themselves with having the pupils learn some definitions and with stating that a meter is 39.37 inches.

Examination of the textbooks used showed that a majority of the problems are devoted to conversion, a typical problem being "Change 4 miles, 46 rods, 4 inches, to centimeters." Such problems do not give a fair impression of the simplicity of the metric system but rather lead both pupil and teacher to regard the system as something difficult. How much more favorable would be the impression made if two pupils in a competitive race, one armed with a yardstick and the other with a meter stick, were instructed to obtain the volume of the classroom in quarts, dry and liquid, and in liters! It would be well if all arithmetic textbooks contained an assortment of problems entirely in metric measures and if metric rulers were provided for every class.

The teacher should bear in mind the fact that once the metric system comes into general use conversion problems will become less and less important, as all measurements will be made in the new system. Whether, then, his purpose in presenting the subject to the pupil be solely that of the educator, or whether it partakes also of the rôle of the propagandist, he should give practical problems to show the ease with which kilometers can be changed to centimeters or how quickly the weight of a body having given dimensions can be computed. For purposes of comparison let the pupils try parallel examples like these: (1) Find the weight in kilograms of a block of marble, $30 \times 40 \times 50$ centimeters, the density of marble being 2.6. (2) Find the weight in pounds of a block of marble, $30 \times 40 \times 50$ inches, the specific gravity of marble being 2.6. Ordinary fairness to the large numbers of boys and girls who never get into the science classes of the high school demands that they be given an opportunity to become familiar with the measuring system used by scientific men everywhere and by the entire population of most of the civilized

nations. Once their interest is aroused, they will not be slow, in working out concrete problems and projects of their own, to take advantage of apparatus borrowed from the high-school laboratories.

When a principal is asked whether his teachers are thoroughly familiar with the details of the metric system, the natural expectation is that he will make the reply as favorable as conscience will permit. Nevertheless, only 38 per cent of the principals reported that their teachers are well prepared; 52 per cent reported that their teachers are not prepared; and the remainder were non-committal. Teachers cannot be expected to impart information which they have not received, and, under present conditions, the only way to make certain that prospective teachers of arithmetic are prepared at this point is to make one year of high-school physics mandatory. So far as physics and chemistry in the high school are concerned, the replies were well agreed that metric units are used exclusively.

Perhaps the most hopeful phase of the whole inquiry relates to the attitude of the principals themselves. Sixty-six per cent expressed themselves as personally favorable to the adoption of the entire metric system for general use; 21 per cent wish more information; and 11 per cent were indifferent, but none were hostile.

Conditions as here outlined may fairly be considered as representative of the nation as a whole. The great need is for educational work among the children, and, to reach them, we must begin with their teachers. If the rising generation is given an opportunity to acquire the facts concerning the adoption of the metric system, or any other forward movement, we may confidently await their favorable verdict.

A COMPARISON OF THE LECTURE-DEMONSTRATION AND THE LABORATORY METHODS OF INSTRUCTION IN SCIENCE

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A number of investigations have recently been made with regard to the relative merits of the lecture-demonstration and the laboratory methods of instruction. It seems worth while to bring the results together in one article in order to make comparisons and to suggest additional lines of inquiry based on the results thus far achieved.

The investigations which have been reported are listed as follows, in the order of appearance:

William H. Wiley, "An Experimental Study of Methods in Teaching High School Chemistry," *Journal of Educational Psychology*, IX (April, 1918), 181-98.

Harry A. Cunningham, "Under What Conditions, in High-School Science, Is Individual Laboratory Work Preferable and When Does the Lecture Demonstration Give Better Results?" Unpublished Master's thesis, Department of Education, University of Chicago, 1920. Pp. 56. ("Individual Laboratory Work versus Lecture Demonstration," an abstract of this thesis, appeared in *The Proceedings of the High School Conference of November 18, 19, and 20, 1920*, University of Illinois Bulletin, Vol. XVIII, No. 14.)

Thomas D. Phillips, "A Study of Notebook and Laboratory Work as an Effective Aid in Science Teaching," *School Review*, XXVIII (June, 1920), 451-53.

J. L. Coopridge, "Oral versus Written Instruction and Demonstration versus Individual Work in High-School Science." Unpublished Master's thesis, University of Chicago, 1922. A summary of this thesis appeared in *School Science and Mathematics*, XXII (December, 1922), 838-44.

E. W. Kiebler and Clifford Woody, "The Individual Laboratory

versus the Demonstration Method of Teaching Physics," *Journal of Educational Research*, VII (January, 1923), 50-58.

J. L. Coopridger, "Laboratory Methods in High-School Science," *School Science and Mathematics*, XXIII (June, 1923), 526-30.

Harry A. Cunningham, "Laboratory Methods in Natural Science Teaching," *School Science and Mathematics*, XXIV (October and November, 1924), 709-15, 848-51.

Fred G. Anibal, "A Comparative Study of the Effectiveness of Teaching High-School Chemistry through Individual Laboratory Experimentation and Lecture Demonstration." Unpublished Master's thesis, Department of Education, University of Chicago, 1924. Pp. 69. This report is based on two studies in successive years. An abstract of the work will appear shortly.

Tables I and II show the results of immediate tests and of delayed tests, respectively. It will be seen from these tables that, so far as imparting information to the pupils is concerned, the lecture-demonstration method is superior to the laboratory method of procedure in immediate results but that retention of subject matter, as shown by delayed tests, is better accomplished by the laboratory method, though the difference between the methods is not markedly great in either case.

The results of the study reported by Phillips cannot be included in the tabulation, since he does not state the number of pupils involved in the experiment, the nature of the exercises or of the tests, whether the tests were immediate or delayed, or the scores achieved. Certain pupils in high-school physics carried out some experiments by the laboratory method; other experiments they saw demonstrated; in each case they made notebook records. The tests covered three items: (1) the apparatus and materials used, (2) the method of conducting the exercise, and (3) the conclusion. The answers were scored as "complete and accurate," "acceptable," or "unsatisfactory." The results are presented in Table III. The author's conclusion is that the laboratory method has no advantage over the demonstration method.

The method of conducting the experiments in the investigations reported is approximately as follows: On the basis of general intelligence tests or such tests and the pupils' marks, the pupils to be in-

TABLE I
IMMEDIATE TESTS

	NUMBER OF EXERCISES	NUMBER OF SECTIONS	NUMBER OF PUPILS PER SECTION	LECTURE-DEMONSTRATION METHOD		LABORATORY METHOD	
				Average Percent- age Score	Average Time	Average Percent- age Score	Average Time
Anibal (1).....	25	2	23	60.71	.....	56.45	.....
Anibal (2).....	10	2	17	71.11	.....	68.35	.....
Cooprider (1).....	24	3	14	72.55	.....	70.80	.....
Cooprider (2).....	12	4	17	63.76	.....	62.70	.....
Cunningham (1).....	13	2	12	64.33	30.22	61.15	42.08
Cunningham (2).....	12	2	10	60.30	23.00	55.20	25.40
Kiebler and Woody.....	14	2	.....	60.53	.....	59.68	.....
Wiley.....	3	3	8	56.30	.....	56.60	.....

TABLE II
DELAYED TESTS

	TIME BETWEEN PRESENTATION AND TEST	AVERAGE PERCENTAGE SCORE	
		Lecture- Demonstration Method	Laboratory Method
Anibal (2).....	5 months	28*	38*
Cooprider (2).....	1 month	34.74	35.09
Cunningham (1).....	1 month†	46.10	49.50
Cunningham (2).....	3 months†	30.50	34.60
Kiebler and Woody.....	2 weeks	58.51	59.30
Wiley.....	4 weeks	38.30	39.70

* T-Score on the Rich test; the remaining items are percentages.

† Estimated from graph.

TABLE III
RESULTS OF THE PHILLIPS EXPERIMENT

	PERCENTAGE OF PUPILS WHOSE ANSWERS WERE COMPLETE AND ACCURATE		PERCENTAGE OF PUPILS WHOSE ANSWERS WERE ACCEPTABLE		PERCENTAGE OF PUPILS WHOSE ANSWERS WERE UNSATISFACTORY	
	Laboratory Method	Lecture-Demonstration Method	Laboratory Method	Lecture-Demonstration Method	Laboratory Method	Lecture-Demonstration Method
Apparatus and materials... Method.....	63 48	63 44	11 26	15 26	26 26	22 30
Conclusion.....	22	30	26	22	52	48

structed are divided into two or more sections, each pupil in one section having a mate of approximately the same intelligence in each of the other groups or sections. In the case of the laboratory work the pupils are given their instructions either orally or in writing and proceed with the work without assistance from the teacher. In the lecture-demonstration method the instructor, as he performs the experiment, uses the same language found in the laboratory instructions with, of course, a change in the personal pronoun. He avoids any instruction by direct exposition. The textbook work, recitation, and notebook work are alike for the several sections. In other words, the attempt is made to keep all the elements of the experiment identical except the one variable—in the lecture-demonstration method the experiments are performed by the instructor; in the laboratory method, by the pupil.

This method of procedure is neither that of the laboratory nor that of the lecture demonstration as it is ordinarily conducted, for the lecture demonstration is usually accompanied by exposition on the part of the instructor, and in the laboratory the pupil is assisted and supervised by the instructor, who gives more or less demonstration and exposition. It seems advisable, however, to make the experiment as described in order to determine the results of pure laboratory work in contrast with pure demonstration before attempting combinations of the two. The chief benefits supposed to accrue from the individual laboratory work of the pupil are his opportunity to learn at first hand by coming into direct contact with things and his chance to acquire fertility of suggestions, facility in thinking, and self-reliance by facing problems and solving them for himself.

These several investigators have noted that, in general, there is a marked saving in time in doing work by the lecture-demonstration method. Coopridge estimates it at about 50 per cent. Cunningham in his first investigation found that the average time for experiments by the lecture-demonstration method was approximately thirty-one minutes; by the laboratory method, forty-two minutes.

Anibal in particular notes the saving in expense. He estimates that to teach chemistry to a class of thirty pupils by the lecture-demonstration method costs about 7 per cent as much as to teach it

by the laboratory method. It would seem, therefore, that, by putting the time saved by the lecture-demonstration method on drill on the important points, retention of subject matter might be made quite as good by the lecture-demonstration method as by the laboratory method with a considerable saving in expense. This question needs experimental study, however.

If it is true that equally as good results can be secured from the lecture-demonstration method as from the laboratory method, we have no right to judge of the efficiency of science instruction by the laboratory equipment. Many colleges and universities will not put on their accredited lists high schools which do not have adequate laboratory facilities; nor will they accept for entrance credit science work that was not done by the laboratory method. It is evident that such practice is quite indefensible if science can be taught as effectively by the lecture-demonstration method as by the laboratory method.

Coopridge in his investigation took into consideration the relative merits of oral and written directions. He found that when the directions were given orally, the pupils made higher scores on immediate tests both in laboratory work and in lecture demonstration. In delayed tests, however, written instructions resulted in higher scores in laboratory work; oral instructions, in higher scores in lecture demonstration.

All these investigations have confined themselves largely to finding out which method of instruction is more effective in imparting knowledge. There are, of course, other values to be considered in science instruction. Kiebler and Woody undertook to find out whether those pupils who had done their work by the laboratory method were better able to attack new problems independently than were those taught by the lecture-demonstration method. The few experiments that they conducted along this line showed that the lecture-demonstration method was superior to the laboratory method in developing such ability. The lecture-demonstration group was more skilful in method of procedure and solved problems more effectively than did the laboratory group. Other investigations of this type are needed.

By conducting the work in one section by the laboratory method

and the work in the other section by the lecture-demonstration method for one semester and then conducting the work in both sections by the laboratory method the second semester, Anibal found that the pupils who had received instruction by the lecture-demonstration method were more skilful in their laboratory procedure than were those who had had one semester of laboratory work. The experiments thus far made are quite inadequate and merely suggest the need of further investigation along this line.

Anibal found in his first study that the lecture-demonstration method is apparently superior in the case of pupils of higher intelligence. He started his experiment with two sections of thirty pupils each, but only twenty-three of the original thirty pairs of pupils finished the semester. In eight of the eleven pairs in the group of lower intelligence, the pupils taught by the laboratory method made higher scores, while in eight of the twelve pairs in the group of higher intelligence the pupils taught by the lecture-demonstration method made higher scores. His second study, however, did not confirm the findings of his first study. In six of the eight pairs in the group of lower intelligence the pupils doing their work by the lecture-demonstration method made higher scores, while in four of the eight pairs in the group of higher intelligence the pupils taught by the laboratory method made higher scores. Cunningham comes to the conclusion from the study of his data that "neither method seems to be better for slow students than for bright ones." Future studies should gather additional evidence on this unsettled point.

Kiebler and Woody think that the laboratory method excels in those experiments that are difficult to perform, thus suggesting that the nature of the exercise is one element in determining the selection of the appropriate method of presentation. In general, it is true that the lecture-demonstration method gives the best immediate results. In each investigation, however, the average score of all the pupils on certain exercises or experiments is higher by the laboratory method, although on most of the exercises the best showing is made by the lecture-demonstration method. It is also true that almost no experiment is done most effectively by either method by all the pupils. The results are averages of all scores and do not show a universal rule. Comparing those experiments which are

the exceptions—those showing higher scores on immediate tests by the laboratory method while the majority of the experiments show higher scores by the lecture-demonstration method—the writer can find no common element to explain the results.

In Cunningham's first study the scores on Exercises 2, 8, and 13 were higher when the exercises were done by the laboratory method, while the scores on the other ten exercises were higher in the case of those pupils who were taught by the lecture-demonstration method. Exercise 2 is the test for proteid with nitric acid and ammonium hydroxide, but Exercises 1 and 3 are tests for starch and oil, respectively, of a very similar sort.

Exercise 8 is done by boiling a little water in a flask and then promptly putting into the mouth of the flask a stopper through which runs a small glass tube. The open end of the tube is dipped into a beaker of water. As the steam in the flask condenses, air pressure forces the water from the beaker up into the flask. Exercise 7 is the solution of zinc in chlorhydric acid and of sodium hyposulphite in water to note the evolution of heat in the first case and its absorption in the second case. The writer can see no reason why there should be a higher score on one of these experiments as a result of the laboratory method and a higher score on the other experiment as a result of the lecture-demonstration method.

Exercise 13 is a comparison of simple and compound leaves to note their differences. The superiority of the laboratory method in dealing with this material may be due to the fact that the leaves compared are small objects and that their details are not readily seen from the demonstration desk.

If we compare, in Coopriders's second study, the immediate tests of the demonstration and laboratory work with oral instructions and the delayed tests of the demonstration work with oral instructions and of the laboratory work with written instructions, we find only a single exercise that yields better results in both the immediate and the delayed tests by the laboratory method. This is the color test for cellulose with iodine and sulphuric acid. The very similar litmus-paper color test for acids and bases results in higher scores in the case of the lecture-demonstration method.

In Anibal's second study the scores in two of the ten experiments

are considerably higher in the case of the laboratory method. One of the two experiments is the preparation of hydrogen with zinc and sulphuric acid and the study of its properties. The lecture-demonstration method, however, results in higher scores in the experiments on the preparation of oxygen and chlorine with studies of their properties, experiments that are counterparts of the first.

It seems likely, therefore, that these exceptions to the general rule that the lecture-demonstration method yields better immediate results are due not to the nature of the experiments in the studies thus far conducted but more probably to variables that have not been taken into consideration, such as room temperature and humid-

TABLE IV
RESULTS SECURED IN COOPRIDER'S SECOND STUDY

	IMMEDIATE TESTS		DELAYED TESTS	
	Lecture-Demonstration Method	Laboratory Method	Lecture-Demonstration Method	Laboratory Method
Object of the experiment...	77.1	82.3	66.2	66.8
What was done.....	85.5	83.4	42.0	47.3
What happened.....	63.1	60.0	18.2	21.5
What the experiment proves.	26.2	23.7	8.0	6.9

ity, light, ventilation, and the fatigue of the pupils. The probability is that such variables will offset one another when the data for all the studies are combined and that, in spite of exceptions, the general rule maintains, namely, that the lecture-demonstration method yields better immediate results and only slightly inferior delayed results than does the laboratory method. The lecture-demonstration method, moreover, is economical of both time and expense.

Both Cunningham and Coopridier kept separate account of the several elements in each exercise. The latter subdivides the tests into (1) the object of the experiment, (2) what was done, (3) what happened, and (4) what the experiment proves. Cunningham used the last three subdivisions, omitting the first. The results of a comparison of the returns under these four headings in Coopridier's second study are shown in Table IV.

We see, then, that the superiority of the laboratory method in

the delayed tests is due to the fact that pupils remember better manipulatory processes and the events that transpire when taught by the laboratory method, that "what the experiment proves" is better known by the lecture-demonstration method, and that there is little difference in the retention of the purpose of the experiment in the case of the two methods. The latter items are the important things to be retained and not the details of technique and happenings. In the case of the tests given it is evident that if most of the questions were concerned with what was done and what happened, the laboratory method would make the best showing in the delayed tests, while if the object of the experiment and what it proved were given precedence, the lecture-demonstration method would stand higher. A similar result is shown by Cunningham's graphs of the data with regard to "what the experiment proves" in the case of the retention tests in his second study. The difference between the laboratory method and the lecture-demonstration method is about 1 per cent in favor of the former on "what the experiment proves" and about 6.5 per cent in favor of the former on "what was done."

His graphs show also what the tabulation of Coopridger's results indicates, namely, that "what the experiment proves" is little understood in the case of either method of instruction. In other words, scientific experiments as at present conducted are often to be classed as "busy work" in high school, interesting perhaps, but not instructive. What the experiments should show—what they are really for—is little realized by the pupils.

The marked contrast between the scores on the immediate tests and the scores on the delayed tests shows how much instruction was lost in a few weeks. If the results are fair samples of our science teaching, it is evident that we need to concentrate on a few fundamentals, to teach these thoroughly, and to pay less attention to the multiplicity of detail.

In the case of several of the points under discussion it is impossible to use the results of some of the published articles cited because the data are not given in sufficient detail. A comparison of results will be facilitated if investigators will publish their returns in full. Many points will probably be disclosed by comparative studies that will not occur to individual investigators.

SUMMARY

The lecture-demonstration method of instruction yields better results than the laboratory method in imparting essential knowledge and is more economical of time and expense. This is true for both bright and dull pupils and for all types of experiments. The last two points need additional experimental confirmation.

The lecture-demonstration method appears to be the better method for imparting skill in laboratory technique in its initial stages and for developing ability to solve new problems. Again, these two items are tentative conclusions, and further experiments will be required to establish them.

Oral instructions are, in general, more effective than written instructions in lecture demonstration but less effective in laboratory work.

"What the experiment proves" is the item on which most pupils fail and is evidently the point to be stressed in teaching.

In science teaching we need to concentrate on a few fundamental principles and to curtail the multiplicity of details in order that pupils may retain the instruction. "Teach for keeps" must be the slogan.

SOME EXPERIMENTAL COMPARISONS OF TRUE-FALSE TESTS AND TRADITIONAL EXAMINATIONS

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The question on which this article attempts to shed some light is whether the true-false type of test can be depended on to measure differences in knowledge on the part of students with sufficient accuracy to justify its extensive use by the classroom teacher instead of the traditional essay type of examination.

Before going farther, let us define our terms. The term "traditional examination" is here used to designate a test consisting of such items as "Discuss the reign of William Rufus and tell why he was unpopular," or "Give the rules for pronunciation in Spanish, and give an example of each." The term "true-false test" refers to a test which consists of statements which are to be marked as true or false, such as "William Rufus was a wise and popular ruler," or "Spanish words ending in consonants except *n* or *s* are accented on the last syllable."

It is possible to compare these types of tests by two different methods. One method of comparison is to give both types of tests and to correlate the scores with such criteria as term averages and the results of achievement and intelligence tests. Such studies seem unsatisfactory, because the criterion is likely to be of doubtful validity. For example, if the traditional-examination scores should correlate more closely with the term averages than do the true-false test scores, it might mean merely that the final averages were derived more from the traditional type of measurement than from the true-false type. If the scores on the true-false test should correlate more highly with the scores on the intelligence test than do the scores on the traditional examination, it might mean simply that the true-false test is more of an intelligence test than is the tradi-

tional examination and not that it measures achievement any more accurately.

The second method of comparing the two types of tests is the experimental method, which has been used in this investigation. The essential elements in the procedure adopted are as follows: (1) Divide the students into two or more groups. (2) Control the conditions in such a way that it is known with certainty that one group possesses more knowledge of the subject than the other group or that one group possesses a different kind of knowledge than the other. (3) Test the knowledge of both groups by using each type of test, just as you might use both a tapeline and a yardstick in measuring each of two rooms to determine which measuring instrument registers more accurately a known difference in the lengths of the two rooms. (4) Compute statistically both the experimental coefficient resulting from the comparison of the two groups when measured by the true-false test and the experimental coefficient derived from a comparison of the same two groups when measured by the traditional examination. The test which yields the highest experimental coefficient is to be considered as the more satisfactory measuring instrument, inasmuch as it separates those who know the subject from those who do not with a higher degree of certainty.

The statistical calculations involved in these comparisons are patterned after McCall's models.¹ In order to have a reliability equal to "practical certainty," or 1.00, the difference should be 2.78 times its standard deviation. Statistically, this is equivalent to saying that it should be four times its probable error. The important thing to be considered here is that a low experimental coefficient means a low degree of discrimination on the part of the test between those who know much and those who know little about the subject. Thus, if we should find that the true-false test yields an experimental coefficient of 1.3, whereas the traditional examination yields an experimental coefficient of only 0.6 for the same groups, we would say that the true-false test is the better measuring instrument in this case.

The foregoing procedure was employed in order to compare the

¹ William A. McCall, *How to Experiment in Education*, p. 161. New York: Macmillan Co., 1923.

true-false test and the traditional examination as measuring instruments in three different fields: in learning foreign languages, in studying printed matter, and in listening to lectures. All the subjects were college students.

The studies in the foreign-language field involved the comparison of the two types of tests in measuring knowledge of the rules and principles of French and Spanish grammar. The method of separating the students into the much-knowledge group and the little-knowledge group was to take for the former group all students who at the end of twelve weeks had marks of A or B and for the latter group all who had marks of C, D, E, or F. This made it practically certain that there was a real difference between the two groups, and the problem of the experiment was to see which test would register this difference more emphatically. It should be noted that this procedure really involves the difficulty that was mentioned in the discussion of the first method of comparison. The fact that the method is one of experimentation rather than of correlation does not alter the situation materially. To have avoided this error in procedure, the experiments should have involved the controlled study of new lessons on grammar instead of merely measuring the results of uncontrolled study during the previous portion of the term.

The studies involving the use of printed matter covered a wide variety of subjects, such as "How to Plant Bananas," "Methods of Teaching French," "The Early Middle Ages," "The Scientific Movement in Education," and "Building a Common Culture." The basis for separating the students into much-knowledge and little-knowledge groups was as follows: The students were arbitrarily divided into two or three groups before a study period. During this study period Group A was allowed to read the printed material thoroughly; Group B was allowed a few minutes in which to glance over the material but not enough time to read it once; in the experiments where there was such a group, Group C was not allowed even to see the material which was studied by the other groups. The study periods varied in length from five minutes to thirty minutes in different experiments, but there was a very marked difference in the time allowed the different groups in each case. Three different

comparisons were therefore possible: (1) comparison between those who read and those who skimmed, (2) comparison between those who read and those who did not study at all, and (3) comparison between those who skimmed and those who did not study at all. Both tests were used in each case to measure each group; it was therefore possible to determine which test registered the known differences in knowledge more emphatically.

The studies dealing with lecture material involved lectures on topics in education and psychology. The students were divided arbitrarily into Groups A and B. The students in Group A were required to take notes on a lecture, and the students in Group B were required to listen and refrain from taking notes. The following day the procedure was reversed, thus making a rotation experiment. True-false and traditional tests were used side by side in four such rotation experiments, and experimental coefficients were computed by the general method described.

It should be noted that the basis for separating the students into groups in the studies involving lecture material involved not necessarily the creation of much-knowledge and little-knowledge groups but rather the creation of note-taking and listening groups. The main point is that we knew the groups to differ in the *kind of study* employed during the lectures, and the purpose of the comparisons was to determine whether or not there is any important *qualitative difference* between the true-false test and the traditional examination. Thus, if note-taking should prove advantageous as a means of preparing for a traditional examination and disadvantageous or less advantageous as a means of preparing for a true-false test, it would appear that there is a difference between the kinds of knowledge measured by the two tests. Such was actually found to be the case in this investigation.

Table I shows the results of the experiments in which the two kinds of tests were employed with foreign-language material. It is to be noted that in each of the three experiments the traditional examination proved to be the more satisfactory measure. The experimental coefficients were 1.6, 1.6, and 2.4 for the traditional examination as compared with 0.8, 1.3, and 0.6, respectively, for the true-false test.

Table II shows the results of comparisons of the two tests in the case of the use of printed material. The important thing to note

TABLE I

RESULTS OF EXPERIMENTS IN WHICH TRUE-FALSE TESTS AND TRADITIONAL EXAMINATIONS WERE USED TO MEASURE KNOWN DIFFERENCES IN KNOWLEDGE OF FOREIGN LANGUAGES

EXPERIMENT	NUMBER OF STUDENTS*		EXPERIMENTAL COEFFICIENT		DIFFERENCE IN FAVOR OF TRADITIONAL EXAMINATION
	Group A	Group B	True-false Test	Traditional Examination	
1.....	13	13	0.8	1.6	0.8
2.....	13	12	1.3	1.6	0.3
3.....	16	14	0.6	2.4	1.8

* Group A was made up of students with marks of A or B; Group B, of students with marks of C, D, E, or F.

TABLE II

RESULTS OF EXPERIMENTS IN WHICH TRUE-FALSE TESTS AND TRADITIONAL EXAMINATIONS WERE USED TO MEASURE KNOWN DIFFERENCES IN KNOWLEDGE OF PRINTED MATERIAL

EXPERIMENT	NUMBER OF STUDENTS*			EXPERIMENTAL COEFFICIENT		DIFFERENCE IN FAVOR OF TRADITIONAL EXAMINATION
	Group A	Group B	Group C	True-false Test	Traditional Examination	
4.....	10	11	.....	1.2	0.2	-1.0
5.....	21	18	.....	0.7	0.2	-0.5
6.....	27	27	.....	0.7	0.3	-0.4
7.....	44	42	.....	0.9	1.0	0.1
8.....	18	18	.....	0.3	0.8	0.5
9.....	9	13	.....	0.5	0.8	0.3
7.....	44	.....	41	1.6	1.9	0.3
8.....	18	.....	17	2.2	2.9	0.7
9.....	9	.....	13	1.0	1.8	0.8
10.....	35	.....	32	3.2	0.8	-2.4†
7.....	.....	42	41	0.6	1.2	0.6
8.....	.....	18	17	2.0	1.2	-0.8
9.....	.....	13	13	0.7	0.8	0.1

* Group A was made up of students who were allowed to read the material carefully; Group B, of students who were allowed a few minutes to glance over the material but not enough time to read it once; Group C, of students who were not allowed to see the material.

† In Experiment 10 the true-false test was given first, followed by the traditional examination. In all other experiments the procedure was the reverse of this. It is possible that this fact may be very significant, as is pointed out later.

in this table is that five of the thirteen comparisons made are in favor of the true-false test and that eight are in favor of the tradi-

tional examination but that the five which favor the true-false test yield an average difference of approximately 1.0, whereas the eight which favor the traditional examination yield an average difference of approximately 0.4. In other words, the advantage more often falls on the side of the traditional examination, but with less force than when it falls on the side of the true-false test. The significance of these facts will be discussed later.

Table III presents the results of the set of experiments in which lecture material was involved. The striking facts here are that in each of the four experiments there is a substantial difference in

TABLE III
RESULTS OF EXPERIMENTS IN WHICH TRUE-FALSE TESTS AND TRADITIONAL EXAMINATIONS WERE USED TO MEASURE DIFFERENCES IN KNOWLEDGE OF LECTURE MATERIAL PRODUCED BY NOTE-TAKING AND LISTENING

EXPERIMENT	NUMBER OF STUDENTS*		EXPERIMENTAL COEFFICIENT		DIFFERENCE IN FAVOR OF TRADITIONAL EXAMINATION
	Group A	Group B	True-false Test	Traditional Examination	
11.....	69	60	-0.2	0.5	0.7
12.....	74	60	-0.3	0.8	1.1
13.....	63	48	0.9	1.4	0.5
14.....	9	11	-0.2	0.7	0.9

* Group A was made up of students who were required to take notes; Group B, of students who were not permitted to take notes. In the case of Experiments 13 and 14 the students had an opportunity to review.

favor of the traditional examination and that in three of the four experiments the coefficients are on opposite sides of the zero point; that is, those who took notes are inferior as measured by the true-false test but superior as measured by the traditional examination. This points to a qualitative difference between the tests and indicates that the true-false test measures a kind of knowledge different from that measured by the traditional examination. The true-false test puts a slight handicap on the note-taker, in that it yields a negative coefficient in three of the experiments. In other words, it probably puts the main stress on recognition of specific points, whereas the traditional examination stresses recall and organization of many ideas.

The note-taker is likely to organize and correlate his material

more than the student who only listens and, in so doing, is likely to overlook many specific points which are stated by the lecturer while he is making notes of the main things. This would account for the fact that the note-taker is at some disadvantage in the true-false test and would also explain why in the traditional examination he so far outstrips the student who does not take notes. If these hypotheses are sound, the conclusion would be that the two tests measure different *kinds* of knowledge in addition to measuring the same kind of knowledge with different *degrees* of reliability.

CONCLUSIONS

We have seen the results of experiments in the case of fourteen different classes, involving twenty different comparisons of the two kinds of tests. Fifteen of these comparisons indicate that the traditional examination is a more reliable measuring instrument than is the true-false test. The other five comparisons offer reason to believe that there may be situations in which the true-false test is decidedly superior. The irregularity of results suggests that there are other factors which should be considered. Some of these may be mentioned briefly.

1. The kind of questions that are asked and the kind of statements that are submitted in the true-false test may have much to do with the results. All the tests used in this investigation were homemade and, furthermore, were devised by persons who were comparative amateurs in the use of true-false tests. The percentage of ambiguous and misleading statements in the true-false tests was probably much higher, therefore, than would have been the case if the tests had been made by persons experienced in the task. The use of traditional examinations was familiar to the experimenters and therefore offered no serious obstacles.

2. The previous habits of the students may influence the results. Many of the students who took part in the experiments had never before taken a true-false test, and none of them were as familiar with true-false tests as with traditional examinations. It is probable, therefore, that the true-false test did not have as good a chance to demonstrate its worth as it would have had if the students had been accustomed to its use.

3. The order in which the two types of tests are given is probably an important matter. In all the experiments except No. 10 the traditional examination was given first, followed by the true-false test. The procedure was reversed in Experiment 10 by accident, and the results were reversed to a very striking degree. Just how much this reversing of procedure influenced the results is hard to say, but it is highly probable that the second test, whatever kind it may be, will tend to show a less reliable difference between the good and the poor students than does the first test.

4. A factor of considerable importance is the number of tests given. Even if one true-false test is less reliable than one traditional examination, several true-false tests may be a better measure of real achievement than are several traditional examinations. Furthermore, since true-false tests are so easy to give and consume so little time, the teacher who uses them is likely to give many tests during the term and therefore may actually have a far more reliable measure of the work of his students at the end of the year than if he had given a few tests of the traditional type.

5. The kind of subject matter may be an important factor in the problem. Possibly one test is better for one kind of material and the other better for another kind.

In the light of the first four of the foregoing considerations, it seems safe to say that the fact that the true-false test was found to be superior in five of the twenty experiments is a very good showing. That such a test proved to be superior to the traditional examination in 25 per cent of the experiments speaks favorably for it when it is remembered that the test was devised by amateurs, was given to students who were not accustomed to it, and was given as the *second* test in all cases except one.

There are two additional considerations that should be noted here which favor the use of the true-false test *even though it should be inferior* to the traditional examination as a measuring instrument. (1) It is more economical of time and labor, thus lessening the teacher's burden and leaving more classroom time free for teaching new material. (2) Even though it yielded lower experimental coefficients in these experiments than did the traditional examination, it yielded coefficients that are *high enough to be of considerable importance*.

In spite of the fact that there were several experiments in which the small number of students taking part would tend to produce low coefficients, the median of the twenty coefficients based on the true-false test is 0.75, which is high enough to be of considerable value, especially when we note that the corresponding median for the traditional examination is only 0.9.

The thing which seems to discount the value of the true-false test more than anything else discovered in this investigation is the result found in connection with the lecture experiments. Since note-taking tends to be a relative hindrance to high achievement on the true-false test, we are inclined to question whether we should make extensive use of such a test. We doubt the wisdom of employing a test which puts a premium on details and specific points and a discount on selection and evaluation of ideas, as the true-false test seems to do. If we use such a test extensively, we thereby encourage our students to adopt corresponding habits of studying to learn specific details at the expense of selection and organization of important points.

It would be impossible, from the data presented in this report, to make a general statement as to which type of test is superior for regular use by the teacher. Further investigation is necessary in order to evaluate some of the factors mentioned. In fact, such additional research is going forward at the present time and will probably be reported at a later date. In the meantime, we would recommend open-minded experimentation and use of the true-false test along with the other type of examination for the double purpose of finding out its real field of usefulness and of measuring a different *kind* of achievement, which may, after all, be worth taking into consideration to some degree.

Educational Writings

REVIEWS AND BOOK NOTES

A source book for principles of secondary education.—Much of the best literature in the field of secondary education is found in the educational journals, and an adequate presentation of certain valuable studies and stimulating points of view can be found nowhere else. While, theoretically, all students have access to these writings, practically, many are denied the opportunity of reading them. Even in university classes effective use of magazine articles is often not easy. The number of copies of a particular journal is necessarily so severely restricted and the classes in secondary education are customarily so large that readings can seldom be prescribed for all students. Especially in the summer school, because of the large registration in these courses, is it difficult to use materials not available in book form. For the purpose of meeting a definite need, therefore, a source book¹ for general courses in secondary education has been published.

The volume is composed of six parts and fifteen chapters. The six major divisions of the book deal with the American plan for secondary education, the secondary-school teacher, secondary-school pupils, secondary education in foreign countries, the reorganization movement in secondary education, and curriculum problems. At the close of each chapter there is a statement of the principles derived from the readings, a list of questions for further study and discussion, and rather extensive bibliographical notes. The book differs from the ordinary source book in that the author, at the beginning of each chapter and elsewhere, if necessary, presents discussions and interpretations of his own which orient the reader and give continuity to the work. As a consequence, the readings of a particular chapter are knit together and are related to a single problem.

The selections included in the book are well chosen and show a wide acquaintance with the literature of secondary education. Mr. Uhl's own contributions reveal a mastery of the field. One of the chief merits of the work is that the public high school is conceived throughout as a great social enterprise. The whole movement for the democratic extension of educational opportunities is seen in its relation to society. It is the most important contribution in the general field since the publication of Inglis' *Principles of Secondary Education*

¹ Willis L. Uhl, *Principles of Secondary Education*. Newark, New Jersey: Silver, Burdett & Co., 1925. Pp. xii+692. \$3.00.

and should serve very satisfactorily as a textbook in college and university classes. Moreover, few students of secondary education are so familiar with the literature that they would not be amply repaid for reading this volume.

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A case book of supervisory practice.—Few topics in education have received more extensive treatment than the subject of supervision. For the most part, however, the discussions have been theoretical and have lacked the concreteness needed to make them of great worth in influencing supervisory practice. A recent contribution¹ provides at least a marked contrast to the type of treatment which has usually been employed.

The book has been written with a view to aiding superintendents, principals, supervisors, and critic teachers. It is claimed by the authors that it will also aid classroom teachers who desire critically to appraise their own methods.

The purpose of the book is to supply a body of concrete material dealing with the problems of classroom visitation and conference: (1) how to visit the classroom, what to look for, and how to diagnose teaching; (2) how to lead the teacher through conference to a realization of her own needs and to plan for her improvement, that is, what to say and how to say it; (3) how to plan remedial programs through individual conferences, follow-up conferences, etc. Through general discussion, concrete cases, and summary outline, it is the purpose of this book to offer reliable guidance in meeting the problems that arise in this most important phase of the field of supervision [p. ix].

The volume contains thirteen chapters, all of which deal very largely with technique. The following chapter titles indicate the practical character of the treatment: "Studying the Teacher at Work," "Helping the Teacher," "Visiting the Classroom," "Individual Case Studies of Teaching," "Composite Case Studies of Teaching," "Planning Follow-up Conferences," "Preteaching Conferences," "Failures and Successes," "Remedial Measures for Types of Failures Other than Teaching Technique," "Problems in the Criticism of Teaching," and "Supervisory Types." Stenographic reports of classroom lessons, with the supervisor's critical evaluation and remedial suggestions, are given to illustrate the principles outlined by the authors. Brief case studies are presented to show the types of teachers who will be encountered in supervision and the most common remedial measures which should be applied by the supervisor. Numerous outline studies and devices which have been tested by supervisors in classroom situations are included as suggestive procedures for supervisors and teachers.

The volume will find its greatest usefulness as a case book of supervisory practice. It will, of course, render larger service to supervisors of limited training and experience, but it can be read and studied with profit by supervisors in general.

W. C. REAVIS

¹ C. J. Anderson, A. S. Barr, and Maybell G. Bush, *Visiting the Teacher at Work*. New York: D. Appleton & Co., 1925. Pp. xviii+382.

Vocational education.—The literature on vocational education is very meager. More contributions of the character of the book¹ by Prosser and Allen are urgently needed. To those working in the field of general education this book brings a clear and forceful statement of the principles and theories underlying the vocational-education movement and an accurate description of the principal agencies which are engaged in its development. To workers in the field of vocational education it brings a critical evaluation of current thought and practice. In a consideration of guiding principles it is refreshing to find vocational education in school and in industry treated as a unit rather than as two separate movements.

Although frequent reference is made to agricultural education, commercial education, and home-economics education, the discussions in this book are based on industrial education. This fact makes the volume especially valuable to workers in the three first-named fields, since the lines of demarcation between vocational education and the practical-arts phases of general education are clearly defined.

Although there is no chapter devoted to a specific discussion of the relation of vocational education to general education, frequent reference is made to this relation, and in chapter viii, which deals with present theories in vocational education, there is a table which presents comparisons between general and vocational education. Unavoidably perhaps, the authors compare the most progressive theory in vocational education with the current practice in general education rather than with the most progressive theory.

Chapter iv, entitled "The Iron Man," contains a view of the training-for-leisure-only theory in education different from that expounded in such books as *The Iron Man in Industry* by Pound. Chapter xiii is a pithy summary of the general continuation school as a new social agency. Chapter xvii deals with the problem of training teachers mainly from the point of view of industrial education.

Students in the field of vocational education will find this an excellent textbook. The charts used throughout the book for purposes of comparison are most helpful. The questions and topics for discussion found at the end of each chapter serve as a stimulus for wider reading and observation. The chapter bibliographies are short, and brief annotations augment their usefulness.

This book has to do with the underlying principles which the authors believe apply to all forms and grades of vocational education of secondary grade; with the policies which schools and occupations must adopt in order to meet the mass need for practical training in this country; and with the methods which must be used if we are to develop as we should our priceless asset of human resources properly trained [p. vi].

This quotation accurately describes the scope of the book. There will be readers who disagree with some of the principles and policies as stated, but,

¹ Charles A. Prosser and Charles R. Allen, *Vocational Education in a Democracy*. New York: Century Co., 1925. Pp. xii+580. \$2.75.

for the most part, there will be general acceptance of the statements as an expression of the best that experience has taught us in the vocational field.

L. S. HAWKINS

A course in the social studies.—An encouraging sign of educational progress is the increasing number of cities in which courses of study in the various subjects have been worked out by committees of teachers aided by educational experts. One of the most elaborate products of such effort is the course in the social studies recently published by the Department of Education of Baltimore.¹ This course is the work of representatives of the senior and junior high schools of the city aided by the counsel of Professor Henry Johnson, of Teachers College, Columbia University.

The Baltimore course of study provides for six years of work in the social studies. In the junior high schools the work consists of two years of American history with the European background in the seventh and eighth grades and one year of community and economic civics in the ninth grade. All pupils are required to take the three years of work. In the senior high schools the work includes a two-year course in European history in the tenth and eleventh grades, a one-year course in American history and civics in the twelfth grade, and a course in economics in the twelfth grade required of all pupils taking the social studies or the commercial curriculum and elective for other twelfth-grade pupils. As an alternative for modern European history, a course in English history is offered in the eleventh grade. Academic pupils entering the senior high school in the ninth grade are required to take European history in that grade instead of community civics and to take English history in the eleventh grade.

From the foregoing summary it is clear that in both the junior and the senior high schools of Baltimore history of a rather formal type holds the commanding position in the social-studies group, five of the six years being given almost wholly to its study. Unless they choose to elect the course in economics, academic pupils during the six years spent in these schools receive no instruction in the social studies other than history with the exception of the one year of community and economic civics and the short period devoted to civics in the course in American history. In the distribution of time thus made between history and the other social studies the Baltimore course represents a backward step.

The material in the course of study is in the nature of a syllabus arranged for the use of the teacher; it is not designed as an outline of work to be put in the hands of the pupils. The courses provided for the senior high schools are, for the most part, formal and conventional. The work outlined for the junior high schools, however, possesses originality and promise; especially is this true of the work in history planned for the seventh and eighth grades. For these grades three different courses are provided: the double-starred topics constitute

¹ *Course of Study for Senior and Junior High Schools: The Social Studies.* Baltimore: City Department of Education, 1925. Pp. 578.

the minimal-fact basis for advancement; the starred topics indicate the further requirements for pupils of average ability; the unstarred topics comprise the additional material that pupils of superior attainments are expected to master. The outlines for the seventh and eighth grades are arranged in two columns, the first devoted to American history and the second to the European background. In addition to the outlines, which, on the whole, are admirable, the syllabus contains suggestions with regard to procedure, questions for class discussion, text assignments, teachers' references, and pupils' library references to be used for individual and group assignments. Worthy of especial praise are the series of "source problems" accompanying each of the major divisions of the outline.

Viewed as a whole, the Baltimore syllabus for the social studies is a highly creditable piece of work. It is true that the course is lacking in balance between history and the other social studies and that the work for the senior high schools in particular is formal in character. With these exceptions, however, most of the recommendations of the committee are judicious and practicable. The syllabus will prove a valuable aid not only to teachers of the social studies in Baltimore but also to social-science teachers in other communities. All who are engaged or interested in curriculum revision will find the volume suggestive and helpful.

HOWARD C. HILL

The introductory course in education.—Less than a decade ago the introductory course in education which seeks to give the beginning student in teacher-training institutions a survey or overview of the field as a whole was comparatively unknown. Within the past year five or six first books in education have come from as many different authors. One of the most recent additions to the growing list of introductory texts attempts "to present a composite view of the field of elementary education as well as the ideals and aims of the various divisions of this field" (p. v).

The first two chapters discuss the aims of education and individual differences. The progress of the pupil through the school is divided into three periods: primary grades, intermediate grades, and junior high school. The author devotes an unusually large amount of space (about one-half of the book) to methods, as evidenced by treatments of types of teaching, lesson-planning, the teacher at work, observation of teaching, and school discipline. Measurements and extra-curriculum activities are discussed. One chapter describes the original nature and the characteristics of children in the various divisions of the school (primary grades, intermediate grades, junior high school, and senior high school). The book begins with a brief treatment of the aims of education and ends with a longer discussion of objectives; the question may be raised as to whether it would not have been better to have included all this material in the first chapter.

The author reiterates that the "true" and "real" junior high school makes

* Louis E. Heinmiller, *A First Book in Education*. New York: Century Co., 1925. Pp. x+278. \$2.00.

use of the 6-3-3 plan and that other plans are largely "makeshifts" (pp. 42-43). As a matter of fact, the author mistakes the form for the substance. The real junior high school embodies a spirit of social co-operation rather than a set administrative organization. No one plan is universally superior, and usually the scheme of organization must be fitted to the needs of the local community. No substantiating data are offered for the statement that "we ought to have departmental teaching in all grades of school, not merely in the junior high school" (p. 47). The chapter on discipline prescribes certain remedies and punishments for such offenses as whispering, note-writing, laughing and giggling, smoking and swearing, talking back to the teacher, chewing gum, tardiness, truancy, and cheating. There is some question as to whether the novice can take such prescriptions and apply them to specific situations. Certainly the teacher who sets up an effective control technique and stimulates real interest on the part of the pupils will have a minimum of the petty annoyances enumerated and can work out her own solutions to meet individual needs.

The volume includes sample lesson plans, directions for the observation of teaching, and reproductions of certain standardized tests. The references listed at the end of each chapter are incomplete in that they give only the surnames of the authors and the titles of the books. Some of the more recent contributions to the field have been omitted, especially in the case of the junior high school literature. No data or references to authority are given in the discussions, which are in large part series of dogmatic statements. Such a practice does not promote individuality and initiative on the part of the student in weighing evidence and comparing data. The diction at times is rather informal, and the style tends to be literary rather than scientific. On the whole, the book offers nothing which has not been done as well or better in other introductory texts.

CARTER V. GOOD

MIAMI UNIVERSITY

The course of study in art.—Teachers and supervisors of art who realize the increasing need for the reorganization of the course of study in art welcome the publication of material dealing with that topic. What to include in the course of study, how to organize units of work, and the methods of teaching to be used are problems in art education that need analysis. Art teachers feel a growing need for a critical evaluation of subject matter that will aid them in organizing the course of study in art on a sound educational basis. At present there is little material in this field, and the publication of a book on the *Organization and Teaching of Art*¹ by Leon Loyal Winslow will fill a definite need.

In the first two chapters of the book the author sets forth general considerations with regard to the needs and values of art education. He places particular emphasis on the relation of art to industry, recognizing the fact that the industrial product of today is a machine-made thing. He says, "If art is ever to as-

¹ Leon Loyal Winslow, *Organization and Teaching of Art*. Baltimore: Warwick & York, Inc., 1925. Pp. 148. \$1.60.

sume the place in industry it once occupied, either the machine must be so improved as to meet the requirements of the best design, or else the designer must learn the possibilities and limitations of the machine in order that he may adjust his design to the conditions without sacrificing any of its inherent beauty" (p. 10). The author then makes evident the educational significance of this fact. "Education should seek ever to propagate and to perfect a superior type of art, should teach the public to appreciate it and to demand it, and should train designers and craftsmen to achieve superior results" (p. 11).

The next two chapters deal with art in the elementary school, outlining appropriate topics for study in the first six grades: food, clothing, shelter, records (including sculpture and painting), utensils, tools and machines, light, heat, and power. Plans for typical lessons in pottery, book-making, bread-making, study of textile fibers, and picture study are included in the fourth chapter. In the last two chapters of the book material adapted to the junior and senior high schools is outlined in some detail, with particular emphasis on the history of art and the appreciation of art quality in painting, sculpture, and architecture. At the end of each lesson outline there are lists of available reference books. These references constitute an adequate bibliography and should prove valuable to the classroom teacher.

The book is rich in suggested topics for study and offers a few suggestions as to methods of presentation. It impresses one, however, as being too dogmatic and flavored too much with the personal convictions of the author without sufficient impersonal evaluation of the topics outlined for study in elementary and high schools. Some art teachers will hesitate to accept bread-making and the study of textile fibers as legitimate parts of the course of study in art. The relation of art to the rest of the curriculum needs careful consideration. Basic principles on which to build the course of study in art must be determined, and in this respect the book is lacking. However, it is full of good practical suggestions and will serve as an excellent reference book for the art teacher.

FLORENCE WILLIAMS

Insurance as an item of school finance.—Recent studies of school finance give evidence of the fact that the public is demanding of school men an accounting of every item of the financial budget. If school men are to meet this demand satisfactorily, budgets must be scientifically planned and expenditures wisely and carefully made. Every item of the budget must be examined with business-like scrutiny and managed in accordance with the best current practices. Insurance is a significant item in every school budget but one which has received little scientific study. A recent thesis¹ makes a comprehensive analysis of insurance practices in the case of school buildings in the state of New York. The study of conditions in New York is supplemented by a brief survey of insurance

¹ William T. Melchior, *Insuring Public School Property*. Teachers College Contributions to Education, No. 168. New York: Teachers College, Columbia University, 1925. Pp. xviii+188.

practices throughout the United States. The importance of such an investigation is indicated in the following paragraph.

This report will have served three of its main purposes if it awakens the interest of school men in the matter of insurance, arouses insurance companies to an initial and scientific study of public-school risks as a class by themselves, and serves as a guide to school men seeking advice on school insurance. Its main purpose will have been attained if it fixes indelibly in the minds of those intrusted with the stewardship of the school property and the sacred trust of the lives of children and employees the fact that the first principle of school insurance is eternal vigilance in the elimination of fire hazards [pp. xvi-xvii].

The report is divided into six parts. Part I gives a description of the sources of the data and the method of making the study. It also contains a summary of the legal provisions for insurance of school buildings and sets up a series of fundamental principles on which these legal provisions are based.

Part II deals with the values of school buildings and the fire hazards commonly found in school buildings in the state of New York. It points out the basis on which sound values of school property may be computed and gives statistical data based on these values. Inasmuch as insurance costs are based on sound values and fire hazards, this part is indicative of the important elements entering into the calculation of insurance costs.

Part III is a discussion of methods of protection against fire losses. It emphasizes especially prevention as the cheapest and best form of insurance. This part contains a detailed analysis of the methods of insuring in common use and of the character of the insurance policies in force. It is of particular value in acquainting the reader with the current practices employed to prevent loss through fire.

Part IV consists of a statistical analysis of insurance costs and losses. It deals not only with fire losses but also with losses due to lightning, windstorm, and other common causes. A consideration of particular interest in this section is concerned with the "Relation of Indemnity Collected to Premium Cost." The data presented do not prove that it does or does not pay to insure, but they do show that it pays to attempt to eliminate hazards. Insurance seems to be a poor investment for the state as a whole but a good investment for individual districts.

Part V contains a brief survey of insurance practices throughout the United States. It gives a summary of legal provisions for insurance, methods employed for carrying insurance, and an analysis of costs and losses. This section of the study was compiled from reports made by school executives of 117 cities and from a symposium on "Insurance on Public Schools" by thirty insurance executives.

Part VI is a summary in concise form of the findings of the investigation.

The study is a comprehensive survey of a phase of finance which has received very little attention in the past. School executives will find in it an abundance of data for comparing local insurance costs with current practices. They

will also find in it practical suggestions for the reduction of insurance costs and for the reduction of hazards through prevention. The findings of the study are based on scientific data and merit the attention of school men who are interested in dealing with school finance in a scientific manner.

J. M. McCallister

Inspirational essays on educational problems.—The universal cry throughout the ages has been for greater freedom, not political freedom only, but social, economic, and religious freedom also. With crime, murders, deaths from automobile accidents, and divorces increasing in frequency and the social and living conditions of our cities becoming more and more perplexing, one wonders whether the average man's real freedom is not in danger. These and many other crises are discussed fully in a very readable volume.¹

The author shows that, while technical education and professional education have developed rapidly, training for citizenship is still largely in the preliminary stage. Many who are very business-like in their private affairs are unintelligent and negligent toward civic duty. He pointedly states in the Introduction:

I make no apology for the sense of crisis running through the discussion: indeed, it seems that only complete blindness or resolute refusal to look at the world could prevent anyone from having this sense. The United States of America is being weighed in the balances: if verdict had to be passed today, inexorably, on our freedom, on our equality, on our loyalty to the sentiments of the Declaration of Independence or to the passionate spirit of human liberty which dominated the birth of our national life; upon the active patriotism of the great body of our citizens; upon the purity of our administration of government and the integrity of our public officials; upon our preference of God over Mammon, or of virtue over self-indulgence; what would be the verdict? [P. xv.]

The author discusses this broader freedom in such topics as refounding democracy; national aims in American education; educating for freedom, for union, for patriotism, for civic duty, and for world-order; the educative use of history; and Abraham Lincoln and American education. Each chapter is introduced by appropriate quotations from the world's great leaders and patriots. Many time-worn truths are given new meanings. For example, "the main question at issue is not freedom of speech but freedom of hearing, not freedom of the press but freedom of reading, not freedom of teaching but freedom of learning. Freedom of utterance affects primarily the one individual; freedom of hearing affects many scores, hundreds, thousands, even the whole citizenship of the country or the people of the world" (p. 75). This is merely indicative of the method and style followed in the entire volume. The Appendix contains a separate bibliography for each chapter as well as a list of thought-provoking problems for further study.

The author possesses a very fluent and interesting style. In fact, both the

¹ Edward O. Sisson, *Educating for Freedom*. New York: Macmillan Co., 1925. Pp. xxiv+226.

style and the subject matter lead the reviewer to the conclusion that the book is inappropriate for use as a textbook. It creates too many exciting crises. However, it should prove very valuable and especially stimulating to teachers, possibly as a reading-circle book. As such, it will be recognized as a contribution.

JOHN A. NIETZ

A general book on the work of the high-school principal.—In many places the high-school principal is no longer considered the "headmaster." At the present time, however, there are vestiges of the older idea in most of our school systems, and in some of the smaller communities there appears to have been little change. It is only in recent years that the high-school principalship has been regarded as a professional position demanding special preparation and training. This training has been given in only a relatively small number of centers of education, and we have had very little material in book form suitable for class work.

A book¹ which appears to be a pioneer in the general field of the high-school principal's work has attempted to bring together the material which heretofore has been scattered in magazine articles. The author states that this material "has never before been brought together in a single book for the use of classes or for the reading of the principal in service. It is hoped that the present volume will be found serviceable for both these purposes" (p. iii). Such a work is indeed a service, for magazine articles and proceedings of associations are relatively inaccessible to many people. The book is not a reprint of selections but represents Mr. Johnson's assimilation of the material in the light of his own wide experience as a principal.

The scope of the book is broad. In fact, it may deal with too many of the principal's problems, resulting in too limited a treatment of each. The reader's opinion with regard to this point will depend on his position in the field. The book contains twenty chapters, each one of which could readily be expanded in treatment to make a book larger than the present volume. It cannot, therefore, represent the best possible treatment of every topic; for this, special sources will have to be consulted. However, the book contains a great deal of practical material which should be valuable in preparing a person for the principalship. It should also be helpful to the principal in service whose professional training is somewhat limited, as it will call to his attention standard practices in the case of a wide variety of problems and will put him in touch with recent literature.

A question may be raised with reference to the organization of the book. If there is any particular order in the arrangement of the chapters, it is not readily apparent. This fact detracts from the unity of the book and makes it appear as a somewhat unrelated series of essays. Only in two or three places are transitional paragraphs used to hold the subjects together. Since the book deals with the work of one man, the principal, it seems that there should be some natural lines of division in the work, adding to the coherence, emphasis,

¹ Franklin W. Johnson, *The Administration and Supervision of the High School*. Boston: Ginn & Co., 1925. Pp. viii+402. \$2.00.

and clarity of the treatment. Discriminating organization of material will often furnish the key to a more complete understanding of it.

There are many workers in educational administration who are looking particularly to the development of a science of administration and who will scan every new publication in the field from this point of view. It must be said that the present volume is not a direct contribution to this development. The point of view is modern, and the principles laid down are in many cases based on the scientific material that we have. We do not have a great deal, however, and the book does not appear to contain any original contribution of great interest. Its service is rather in making available to a large number a considerable amount of the opinion, practice, and evidence that have hitherto been established.

DOUGLAS E. SCATES

History and the other social studies in the senior high school.—It is the exception rather than the rule in this country for high schools to publish in detail the courses they offer in the various fields of instruction. The University High School of the University of Iowa has recently published three monographs¹ containing the course in the social studies for each year of the senior high school. The monograph for Grade X presents a detailed outline of European history from the time of early man to the present. The monograph for Grade XI is devoted to United States history; the monograph for Grade XII, to "Contemporary Problems: Social, Economic, and Political."

The general plan followed in each monograph is to outline in detail the material to be taught and to list abundant reference material for each large topic. There is nothing said about objectives, standards of attainment, tests, and a number of other features which frequently appear in published courses of study. It is stated by the authors in each of the two monographs on history that the organization of the course is topical and the form of phrasing generally problematic.

The course in contemporary problems deals with such topics as the family, heredity, immigration, labor, women in industry, child welfare, sanitation and health, production, distribution, consumption, taxation, suffrage, and conservation. Each topic is outlined in considerable detail. References are also given in connection with the main division of each topic.

Anyone interested in knowing how one high school is solving the problem of the teaching of the social studies in the senior high school will do well to secure copies of these courses.

R. M. TRYON

¹ Bessie Louise Pierce and Esther Eloise Sharpe, *Courses in the Social Studies for Senior High Schools*: Tenth Grade, pp. 102; Eleventh Grade, pp. 174; Twelfth Grade, pp. 122. College of Education Series, Nos. 8, 9, and 10. University of Iowa Extension Bulletin, Nos. 118, 119, and 120. Iowa City, Iowa: University of Iowa, 1925.

Advanced algebra.—In recent years college mathematics has been more severely criticized than has high-school mathematics for not presenting mathematical materials in such a way that assimilation can take place without a maximum expenditure of energy. To meet this criticism is the principal aim of a recent text in advanced algebra.¹

The distinctive features of this text are its brevity, its modern point of view, and its adaptability. The modern point of view may be recognized in the early introduction and consistent use of the derivative. For some years educators have advocated the early introduction of certain elementary ideas and processes of the calculus into junior-college courses in mathematics. The use of the derivative in a secondary-school course in advanced algebra is an innovation and should prove both interesting and less difficult than some of the traditional material that is displaced.

The adaptability of the text is due both to the selection of subject matter and to its arrangement. Many topics found in the older algebras, such as the formulas for solving cubic and biquadratic equations and Euclid's method of finding the highest common factor, are omitted. The notions "function," "graph," and "check" are kept constantly before the student. The first five chapters are arranged in a logical sequence and culminate in a careful study of the polynomial function. The additional material is concerned with the use of the concept of the derivative.

The text should bring new life into the subject, which has seemed to lag behind in the progressive, modern developments in mathematical education. It seems to be well adapted for courses in secondary schools and colleges and should be very helpful to teachers of advanced algebra.

C. A. STONE

An interpretation and appreciation of representative leaders of the South.—There has long existed an urgent need for an intelligent interpretation of pioneer thought in the different sections of the country, especially in the South. As writers seek to know the true spirit of representative leaders and thinkers, they will gradually come to render a more intelligent interpretation of the history of our country as a whole.

Professor Howard W. Odum has made a very comprehensive presentation² of the best ideals of the leaders of the South. The book is a compilation of varied and intimate interpretations of southern pioneers and leaders who stand out as peculiarly representative of their respective spheres of life. The first chapter, "Southern Promise," deals critically, yet fairly, with both the deficiencies and the accomplishments of the South—economic, social, political, and educational; it points out remedies for the shortcomings through various channels of develop-

¹ Herbert E. Buchanan and Lloyd C. Emmons, *A Brief Course in Advanced Algebra*. Prepared under the editorship of John Wesley Young. Boston: Houghton Mifflin Co., 1925. Pp. viii+186. \$0.88.

² *Southern Pioneers in Social Interpretation*. Edited by Howard W. Odum. Chapel Hill, North Carolina: University of North Carolina Press, 1925. Pp. vi+222. \$2.00

ment. In the succeeding chapters are presented the appreciation and the interpretation of representative southern leaders. Woodrow Wilson is pictured as a living example of a "challenge to the fighting South"; Walter Hines Page is characterized as a "southern nationalist"; Charles Brantley Aycock, as a typical representative of a "southern cultural type"; Joel Chandler Harris, as a "constructive realist"; Booker T. Washington, as the "creator of a race epoch"; Madeline McDowell Brechinridge, as the "herald of community service." The final chapter presents Edward Kidder Graham, who is truly a representative of the South's conception of an "apostle of culture and democracy."

The volume is a most fitting tribute to southern pioneers by those who know them well. The South's appreciation of them is here organized in a manner which is full of human interest, information, and literary merit of the highest type. The volume should appeal not only to the students of history and literature but also to the casual reader who is seeking to know more of the true spirit and worth of the South.

R. R. HOLLINGSWORTH

COE COLLEGE

CURRENT PUBLICATIONS RECEIVED

GENERAL EDUCATIONAL METHOD, HISTORY, THEORY, AND PRACTICE

- CRABBS, LELAH MAE. *Measuring Efficiency in Supervision and Teaching*. Teachers College Contributions to Education, No. 175. New York: Teachers College, Columbia University, 1925. Pp. viii+98.
- CUBBERLEY, ELLWOOD P. *An Introduction to the Study of Education and to Teaching*. Boston: Houghton Mifflin Co., 1925. Pp. xviii+476.
- DEARBORN, NED HARLAND. *The Oswego Movement in American Education*. Teachers College Contributions to Education, No. 183. New York: Teachers College, Columbia University, 1925. Pp. xii+190.
- Educative Enterprises in School and Classroom* (Second Series). Wilmington, Delaware: Tower Hill School, 1925. Pp. 126. \$0.50.
- GATES, ARTHUR I. *Elementary Psychology*. New York: Macmillan Co., 1925. Pp. xiv+594.
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- LENTZ, THEODORE F., JR. *An Experimental Method for the Discovery and Development of Tests of Character*. Teachers College Contributions to Education, No. 180. New York: Teachers College, Columbia University, 1925. Pp. vi+48.
- WATSON, GOODWIN B. *The Measurement of Fair-Mindedness*. Teachers College Contributions to Education, No. 176. New York: Teachers College, Columbia University, 1925. Pp. 98.

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- BAYS, ALFRED W. *Business Law*. New York: Macmillan Co., 1925 [revised]. Pp. xxviii+474.
- BIRD, JAMES P. *Essentials of French*. Garden City, New York: Doubleday, Page & Co., 1925. Pp. x+368. \$1.50.
- BROWN, ARTHUR G., and TUSTISON, F. E. *Job Sheets in Practical Woodwork*. Milwaukee, Wisconsin: Bruce Publishing Co., 1925. \$0.56.
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- SMITH, HOMER J., and KERN, ROY S. *Automotive Repair for School and Home*. Peoria, Illinois: Manual Arts Press, 1925. Pp. 124. \$1.00.
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- WOOLLEY, PAUL V. *A Guide to the Study of Woodworking*. Peoria, Illinois: Manual Arts Press, 1925. Pp. 62. \$0.90.

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AND OTHER MATERIAL IN PAMPHLET FORM

- BROWN, E. E. *A Statistical Survey by Counties of Education in Oklahoma*. Bulletin No. 110. Oklahoma City, Oklahoma: State Department of Education, 1925. Pp. 62.
- BROWNELL, WILLIAM ARTHUR. *A Study of Supervised Study*. Bureau of Educational Research Bulletin No. 26. University of Illinois Bulletin, Vol. XXII, No. 41. Urbana, Illinois: University of Illinois, 1925. \$0.50.
- Recent issues of the Bureau of Education:
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- Report on the Distribution of Students' Time*. Prepared by a Faculty-Student Committee of the University of Chicago. Chicago: University of Chicago Press, 1925. Pp. xii+102.

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- JUDSON, HARRY PRATT. *Our Federal Republic*. New York: Macmillan Co., 1925. Pp. viii+278. \$3.00.
- NEUBERG, MAURICE J. *Right Living: A Discussion Course for Girls and Boys*. Chicago: University of Chicago Press, 1925. Pp. viii+222. \$1.25.

